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Team Formation under Normal versus Crisis Situations: Leaders' Assessments of Task Requirements and Selection of Team Members

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June 2007

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TEAM FORMATION UNDER NORMAL VERSUS CRISIS SITUATIONS: LEADERS' ASSESSMENTS OF TASK REQUIREMENTS AND SELECTION OF TEAM MEMBERS

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The blend of skills, attributes, and relationships among team members influences their mutual performance. This project addressed the team composition requirements for tasks that vary in uncertainty, risk, and time pressure. Military leaders were asked to identify necessary team member attributes for strategy, negotiating, and crisis response teams, and to compose potential teams from among their colleagues for each scenario. Their responses were combined with measures of relationships among potential teammates. Results indicated that team selection criteria change when organizational environmental factors change, and team leaders make selection decisions considering friendship, professional ties with and reliability of candidate team members. Motivation, professional capabilities, and leadership skills are the most preferred selection variables when the organizational situation is perceived as a crisis.

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I. INTRODUCTION

A. BACKGROUND

The use of teams in organizations has increased on a positive trend because they are found to produce high levels of performance (Katzenbach & Smith, 2003). Teams are different from groups in the sense that team formation is initiated for a unique purpose and with a mutual commitment among team members towards it (Katzenbach & Smith, 1993). Each individual contributes knowledge, skills, and abilities into the team, but the final outcome includes both individual and mutual accountability.

A key element for high team performance is team member selection that determines team composition (Product Development Teams: Advances in Interdisciplinary Studies of Work Teams, 2000). Team selection principles vary often depending on the multiple situations facing organizations and their members. Especially when organizational changes are dynamic and team performance requires learning and adaptability, i.e., flexibility of processes and decision making.

Such a situation was the recent tragedy of Hurricane Katrina that triggered remarkable team related response and recovery efforts. Many team operations were criticized in terms of efficiency and effectiveness. Efficiency is defined as the "capacity to produce results with the minimum expenditure of time, money or materials,' whereas effectiveness is defined as "productive of results", the latter indicating adaptability to a changing external environment (Webster's, 1986). During that crisis situation a network of public organizations had to perform complicated rescue operations. After the disaster, FEMA (Federal Emergency Management Agency) was widely considered inadequate to coordinate and implement the federal emergency response. Team formations influenced the way operations were conducted and the success of those operations.

B. PURPOSE

The focus of this project is on team formation processes highlighting the factors that leaders take into account when composing their teams to handle normal versus emergency situations.

The ultimate purpose of the project is to understand how leaders assess team tasks and select members for their teams given different levels of risk, time pressure, and situational stability. Towards this direction a survey took place based on three different composed situations ranging from a routine organizational context to rapid response in a larger-scale emergency under time pressures. The focus is directed to the factors that affect the structure and composition of teams built by officers with executive knowledge and experience to address such situations (purposive sample of mid-grade military officers – U.S. and allied).

C. METHODOLOGY AND SCOPE OF THE STUDY

First, the actual crisis situation of Hurricane Katrina is described in terms of what appeared to go wrong, including elements composing the crisis situation and cross-functional interactions among public agencies involved in rescue operations. In respect of the lives and property losses resulting from Hurricane Katrina, it would be doubly tragic if we did not try and learn from the case. Teams matter, as do the variables affecting their formation leading to performance.

This project considered that current students at the Graduate School of Business and Public Policy (GSBPP) in the Naval Postgraduate School (NPS) are experienced leaders with mid-level and executive knowledge due to the average decade of experience they have had in leadership positions, including leading and managing teams in both routine and crisis situations. We asked these experienced officers in a survey to assess the necessary characteristics for team members in a business strategy team, a negotiating team, and a crisis response team. Results from the survey were analyzed and fairly specific patterns of team member characteristics were found for the scenarios.

D. BENEFITS OF THE STUDY

The results of this study provide helpful insights of what a purposive sample of mid-level military officers (leaders) deem to be critical in forming effective teams facing three different environmental and organizational context scenarios. It highlights the aspects of team formation that appear to support crucial collaboration, particularly in dire circumstances.

E. ORGANIZATION OF THE PROJECT

Chapter II deals with Hurricane Katrina outlining critical elements of what appeared to go wrong and how team selection and formation can markedly matter, particularly when top performance is needed under high stress and time pressure situations. Chapter III presents literature on team formation and team member selection with regard to what is considered critical in various organizational environments. Chapter IV discusses the study methodology used for this project, and Chapter V analyzes the data and results of the survey. Finally, Chapter VI presents the conclusions, recommendations, limitations, and potential further research areas.

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II. HURRICANE KATRINA CRISIS SITUATION

A. INTRODUCTION

The Hurricane Katrina incident as a case study addresses the federal rescue network's apparent failure to manage a characteristic crisis situation. Federal Emergency Management Agency (FEMA) as a subordinate of Department of Homeland Security (DHS) has been severely criticized even by congressional testimonies (Ink, 2006) for operational shortcomings and managerial mistakes on every level, from decision making and preparation to communications, rescue and recovery operations. In respect of the lives and property lost to the hurricane, it would be more tragic if we did not learn from the event.

Non-governmental organizations (NGOs) – conversely - received credit for quick response in terms of providing support to and relief for Hurricane Katrina victims. The superior efficiency and effectiveness of those NGOs over the Federal rescue organizations extends even further to the generally accepted view that NGOs provided the compassionate and human face of relief efforts desperately needed by crisis victims. Numerous local churches provided food and shelter to the survivors. USA Freedom Corps ran a volunteer search engine for various non-profit organizations integrating their recovery efforts, and the "Katrina Resource Center" was characterized as "people driven," connecting all the dispersed resources provided by volunteers nation-wide (The Federal Response to Hurricane Katrina: Lessons Learned, 2007)

It is also relevant to approach disaster response as a problem of ineffective interagency structure, involving numerous public and non-profit organizations, federal department 'nodes', state and local officials, military commands, humanitarian and environmental agencies and medical services. The same approach would also highlight behavioral constraints on team formations within participating agencies as well as personnel and cultural controls reflecting what Naim Kapucu (2006) might have said: "the boundaries between organizational and collective behavior are blurred."

B. FEDERAL NETWORK OF RESCUE AND RECOVERY TEAMS

FEMA was an independent agency from 1979 until 2003 becoming part of DHS in March 2003. In December 2004, DHS issued the National Response Plan (NRP) for federal involvement in domestic catastrophic incidents (Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System: GAO-06-618, 2006). In August 2005, the President issued emergency declarations under the Stafford Act for Louisiana, Mississippi and Alabama. This was a comprehensive framework where FEMA had the responsibility to implement a multi-state and multi-command rescue and recovery plan during hurricane Katrina.

According to the U.S. House Select Bipartisan Committee (Ink, 2006), Katrina failures took place due to a lack of performance, not a lack of plans; in other words, it was not a public policy for handling emergencies that failed, but its implementation. Assuming that administrative departments and agencies are generally guided by executive decisions, then behavioral characteristics around those decisions can be described, particularly pertaining to DHS leadership, the official "shell" of FEMA (Ink, 2006).

Among the basic characteristics that emerge when a serious public policy is not being implemented as designed is that "Warnings are not heeded" (Ink, 2006). National Weather Service and National Hurricane Center had provided advance warning of 56 hours prior to the landfall of an estimated Category 4 or 5 Hurricane on New Orleans, but warnings were evidently not heeded or acted upon. The National Weather Service and National Hurricane Center were among the few exceptions where a government agency acted decisively and professionally and their efforts were saluted as "heroic" (Ink, 2006)

Another observable characteristic is that the mode of operations is more reactive than proactive. Lapses in initiative compound delays that diminish the available time for organized response and recovery. Apparently, the Homeland Security Secretary failed to take initiatives reflecting a mature understanding of the importance and potential consequences of this rapidly occurring crisis. Noted failures include the following:

- A failure to order before the landfall the convention of the Interagency Incident Management Group designed to provide coordinating support for disaster prevention (Ink, 2006),

- A failure to invoke before the landfall the Catastrophic Incident for a full switch into the mode of operations from reactive to proactive (Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System: GAO-06-618.2006),

- A failure to appoint before the landfall a Principal Federal Official (PFO) in charge of the operational federal coordinating officers (Ink, 2006).

Additionally, network relationships among key federal players were observed to be poor and inadequate. By way of explanation, the following three dimensional approach is offered:

- (1) Local, State, and Federal agencies critically failed to interact in the framework of the National Response Plan (Kapucu & Van Wart, 2006). This lack of interaction is further discussed in this chapter as "Communication issues"

- (2) The dynamic conditions under high crisis demanded high levels of flexibility (Kapucu & Van Wart, 2006). The lack of flexibility is further discussed in this chapter as "Flexibility versus Accountability issues"

- (3) Federal Managers did not pay sufficient attention to the initial warnings of the inbound hurricane. They could have exercised a response system based on warning incident learning (D. L. Cooke & Rohleder, 2006) where normal precursor incidents trigger necessary actions; before, during and post-crisis. This is further discussed in this chapter as "Leadership issues".

C. TEAM ADAPTABILITY IN A COMPLEX ENVIRONMENT

It is useful to note that crisis circumstances can be described in terms of internal and external organizational variables. Hurricane Katrina created havoc among the inter-organizational rescue network (external to FEMA). Inside the government departments

and agencies involved, additional confusion occurred related to coordination and communication deficiences. Crisis management learning scans both internal and external layers of organizational behaviors. An inter-organizational network is a complex system co-evolving with internal and external changes. Paraskevas (2006) states that the evolving, moving and "living" character of the rescue network and its environment should redefine CMPs (Crisis Management Plans) and the team formation rules during the operations towards innovative theoretical concepts like complexity analysis and chaos theory. Sophisticated CMPs are not responsive enough by themselves, they need to have been "assimilated" into the cultural attributes of the organization which will attempt to implement them.

According to Piotrowski (2006), the involvement of systems theories in the analysis of natural or man-made disasters introduces "unorthodox" variables that determine decisively the effectiveness of the rescue operations. System factors are not linearly connected, thus, the effects usually exceed the causes in importance and emergency. A system is defined as a set of interdependent variables working towards a common purpose (Senge, 199o, 2006). Network nodes interact at local levels generating complexity in the receipt and distribution of important information. Feedback is continuous, challenging receivers to make adjustments such as attempting to interpret the intensity, diversity and intent of incoming messages. The impact of the lessons learned from hurricane Katrina fit into the conceptual framework of Chaos Theory, "where dysfunctional systems are considered a normal aspect of adaptation to high-stress conditions" (Piotrowski, 2006).

The word crisis originates from the Greek word "krisis" which means judgment (Paraskevas, 2006). It is clear that those in charge of such dynamic systems would need to be skilled, privileged and supported enough to make optimum judgments. During the Katrina disaster, DHS and FEMA lumped together elements from 22 governmental departments and agencies (Ink, 2006). The crisis response system ideally would have provided a collective identity for all of them before the crisis erupted. In hindsight, DHS and FEMA could have emphasized the robustness and resilience of the departments and agencies directly or indirectly involved. Experienced leadership and trained operational

teams could have made the system respond differently, i.e., real planning with implementation in mind and adaptation as crucial behavioral activities.

Leaders meet coordination challenges in different ways depending on the nature of the task, organizational context and personal characteristics. Structure also matters such as fundamental differences between centralized (hierarchical) and decentralized coordination and decision making structures. Hierarchical or mechanistic structures systematically coordinate routine tasks under stable and predictable circumstances (e.g., McDonalds). Decentralized structures push decision making down in the organization to where it is needed, particularly during unstable and dynamic crisis situations. A decentralized schemata may facilitate communication among multiple sources, including collaborative problem solving, increased agility and adaptability. For instance, facing an immense natural disaster, the Red Cross, local Church Charities and the Salvation Army can mediate between governmental agencies and volunteer groups, establishing a networking matrix where information and resources move freely, key players interact out of the bureaucratic box, and crisis control appears more achievable (Communicable Crises, 2007).

Non-profit team formations interacting with governmental agencies can provide new insights into maximizing response effectiveness, i.e., how might this be related to the absence of a profit or economic motive? Leaders and members co-participate, apparently highly motivated by values and purposes other than expected profits or occupational obligations of public sector employees. Members of non-profit team formations may generate a more supportive and cooperating team environment, including developing and practicing favorable attitudes and team processes. Positive attitudes and motivated members would likely generate organizational loyalty. Tasks that may be considered only profitable or obligatory for business or government personnel - when volunteers are involved – can reemerge as valuable, important and worthwhile efforts, resulting in high and even passionate performance (Likert, 1961).

"Crisis leadership" according to Mittroff (2003) creates a crisis culture inevitably dependent on the connectivity among the various actors. That kind of connectivity creates implications about the stages of team development and the maturity of the professional

and social relationships among the participating individuals in the rescue networks. In the quest for organizational effectiveness methods in crisis circumstances, both leading and participating on effective, cohesive teams and utilizing social networking aspects during team operations appear to generate positive differences.

D. SOCIAL NETWORK PERSPECTIVE

1. Communication Issues

Federal, state, and local emergency response systems were isolated from information sources in the Katrina context. According to the Joint Center for Operational Analysis Quarterly Bulletin (Gegowets, Lt Col USAF, 2006),

> First and second responders were unexpectedly overwhelmed, and in many cases became victims themselves. This left surviving responders unable to communicate with each other, and left coordinating organizations with neither a common picture of the situation (shared situational awareness) nor the ability to direct resources for a timely response.

According to Walters and Kettl (2007) it is important from the communication aspect to have well defined government roles and responsibilities for all key players in the emergency network. However, it is not only the roles, rules and procedures that matter, it is also the interaction among the governmental officials, managers, and officers. Multiple social networking factors are involved.

When a bureaucratic system faces large-scale disasters affecting the welfare or survival of society members, social networks appear paramount. Basic shortfalls of the failed Katrina response included communication and coordination distortion throughout the affected areas. Communication efficiency and effectiveness although somewhat measurable, are related to intangible social behaviors like willingness to share information, trust, human relations, creating public value and common over individual interests. Lack of communication among network players can happen because of inadequate communication training or technical assets, but also due to trust issues and different priorities (Kapucu, 2006). Communication during natural or man-made disasters depends on all of the possible nodes that interact in the rescue operations.

The composition of rescue networks proves to be surprisingly diverse. About 19 percent of the Katrina victims in New Orleans relied on neighbors and their local community for emotional support, whereas only five percent received such support from formal organizations such as the Red Cross or FEMA (Elliott & Pais, 2006). In a similar situation, during the 9/11 World Trade Center disaster, a total of 1,607 organizations responded to the disaster. Only 77 of them were public or private international organizations. Of the 1,530 domestic organizations engaged in the response system, 1,176 were nonprofit and 149 were private (Kapucu, 2006). As in the Katrina case, complicated communication demands required the federal coordination channels to take into account complex information incoming and outgoing from and towards multiple sources.

For example, one of the critical problems that rescue networks around New Orleans had to deal with was the lack of drinking water. Three days after the storm, Louisiana's most powerful radio station, WWL in Baton Rouge sent out the message: “We need food, water, medical supplies." A little later, an ice company from lower Louisiana sent in truckloads. A doctor from Lafayette, La., commandeered a private plane to airlift bottles of water to Bogalusa's tiny airstrip. Three trucks sent by Nature's Way Pure water in Pennsylvania pulled in with 75,000 more bottles (Boorstin & Helyar, 2005). Besides Red Cross and Salvation Army, 34 National Volunteer Organizations Against Disasters (NVOAD), were deployed to provide aid and comfort to disaster victims (Haddow & Bullock , 2005). The finding that many of these non profit and non governmental organizations were effective, while DHS and FEMA were not, indicates different approaches to the problem by governmental and non governmental networks. Ideally, DHS and FEMA will be made aware of the situational initiatives taken by the boundary volunteers.

Further on this issue, Michael Suzanne and Lurie Ellen (Michael, Lurie, Russell, & Unger, 1985) have developed a model focusing on community response, and highlighting “the efficacy of service delivery wherein the relationships among social workers are egalitarian and co-operative”.

Kapucu (2006) summarizes the importance of effectiveness in terms of communication and network environment, emphasizing the following factors:

- Sharing and using information effectively is the basic prerequisite for acting effectively in disaster situations.
- Valid and timely information sharing is also a key factor in emergency management.
- Boundary spanners, as a link to the external environment, affect decisively effective communication in emergencies.
- Dynamic rescue networks are influenced by reciprocity and mutual trust, which allow several departments and agencies to share information, risks, and opportunities with greater ease.
- Complex information makes bureaucratic communication counter-productive and dysfunctional.
- Extreme events require flexible patterns of communication.

2. Flexibility Versus Accountability

Inefficient implementation of governmental policies can be interpreted as inadequacy of the policies themselves. Just after the Katrina disaster, numerous reports revised the sequence of events, examining every possible eventuality through additional legislative and administrative provisions. They recommended new complementary procedures that theoretically cover any-case scenario. Unfortunately, this preponderance of procedures may not encourage initiatives and innovations (Ink, 2006). Intuitive, expert and experienced leaders need substantial autonomy - the sine qua non condition to coordinate field operations among multiple individuals, groups and teams.

When hurricane Agnes hit Pennsylvania, President Nixon had provided almost complete flexibility to the deputy director of Office of Management and Budget to access resources, and to coordinate and mobilize the workforce during the response and recovery operations; the results were considered successful (Ink, 2006). The essential characteristics of an organizational structure capable of handling crisis situations are

connected with the presence of flexibility in scale as well as in scope. Flexibility in scale addresses different situations making adjustments as necessary. Flexibility in scope integrates different kind of decision makers accordingly. Flexibility needs to be combined with the capability of distinguishing and delegating roles, re-establishing situational awareness under any novel and surprising changes. Additionally, leadership functions using creativity and improvisational methods, showing a fault-tolerant attribute over any misunderstanding or imperfection during the execution phase (Communicable Crises, 2007).

Flexibility and accountability (concepts and practices) are not mutually exclusive, but an overdose of accountability can detract from creativity and adaptability. Similarly, an overdose of flexibility can constrain control systems. If the enemy is ante portas a hurricane inbound at 160 mph or a terrorist bent on harming the homeland; in both, time is running out and the stakes include human lives, completing bureaucratic reports and obtaining multi-level permissions in front of other activities and behaviors will not suffice.

Of course, a ticking clock impinges on all crisis situations. Flexibility, simplicity and adaptability are needed now, when the hurricane makes landfall. Decision making is real-time opposed to post-hurricane behaviors when accountability for housing loans, etc. unfolds incrementally and (hopefully) transparently into the longer-term. Flexibility on the other hand is crucial when time is pressing and when leaders must step out of their hierarchical boxes and take risks. So there is a tension between flexibility and accountability that must be finessed and managed.

The greater the crisis, the more flexibility is needed. When the crisis enters the resolution stage, inter-organizational rescue networks stand-down and normality returns in the form of traditional performance measures and accountability controls (Fink, 2000).

3. Leadership Issues

According to the U.S. House Select Bipartisan Committee (Ink, 2006), the Homeland Security Secretary appointed as PFO (Principal Federal Official) a person who

was less qualified than the situation demanded. The same criticism has been expressed for the Federal Emergency Management Agency (FEMA) leadership (Ink, 2006).

The role of leadership in running a public rescue network goes further than just documenting organizational plans and rules of engagement. Denning (2006) wrote about Hastily Formed Networks (HFN) and highlighted the ability to form rapidly multi-organizational networks in need of humanitarian aid and disaster relief. He stated that to be effective in such emergency networks, participants must be highly skilled at:

- Using advanced mobile communication and sensor systems;
- Having interagency operational knowledge, coming from civil –military boundaries of information;
- Collaborating on planning and coordinating in executing; and
- Improvising and leading social networks, with decentralized decision making and loose hierarchical ex officio relationships.

Even further, a GAO Report (Larence, 2005) indicated that "federal human capital management systems designed in the past are outmoded". Therefore, after 2005, GAO introduced exceptions from old rules, and new flexibilities. The reform initiative stemmed from the generally accepted perception of the public sector being slow-motioned and low-motivated. During hurricane disasters, these public sector weaknesses are highly challenged, given that the public demands increasingly better federal leadership before, during, and after natural disasters (Kapucu & Van Wart, 2006). Consequently, GAO Reported (Larence, 2005) in the aftermath of a series of serious hurricane incidents that agencies need leaders committed to and capable of a more strategic approach of managing people and crisis situations.

There is an interesting nexus between abilities and intentions, with the premise being that both sides of the human brain - logical and emotional - are needed to achieve optimum results. The source of power according to Klein (1999) is the leader's intuition, not as a magic and therefore not measurable feature, but as a product of thorough knowledge and prior operational experience.

E. LESSONS LEARNED

The lessons learned due to the Katrina disaster are of hopeful importance. Learned earlier, they might have prevented the loss of more than 1,500 human lives and $150 billion (Caldwell, 2006):

- An essential critical lesson to be learned is the composition of rescue teams and task assignments. Fagel (Disaster Teams: A Critical Step in Your Facility's Crisis Planning, 2001) addresses the importance of team structure in terms of who should sit on the disaster committee. He suggests an approach that considers the team as a microcosm of the whole organization. In the Katrina incident, the capabilities of some key players in the public rescue network were questionable.

- Knowledge, skills, and ability (KSA) can turn the members of a cross-functional network in the public sector to an effective team (Athanasaw, 2003). Knowledge, skills, and ability measures relate to the number of years of professional work experience of team members, the frequency of team participation, the type of team training, and the reasons leaders and team members enter team assignments (volunteered, assigned, requested). Complementary to the above, effective leaders are usually the highly experienced ones. Rentsch (Rentsch, Heffner, & Duffy, 1994), among others, found that higher experienced team members conceptualize team work more concisely than lower experienced team members. Especially, under the critical conditions of any natural disaster, leaders need to have the "big picture" of the operations.

- New approaches to team performance set the rules of engagement for network oriented organizations that seek performance particularly in a dynamic high-velocity environment; especially when the team assignments are related to rescue and relief operations. Concepts like sharedness of information, transactive and collective memory for the team members, maturity in leadership decision making, distribution of power, time and place span, can all determine the domain of acceptable measures of team knowledge and advanced situational awareness (Organizational Behavior Conference Paper Abstracts, 2005).

- Decentralization of power is crucial because according to Haddow (Haddow & Bullock, 2005), every community is unique with unique resources and priorities, and they must not be excluded from any rescue plan. Mitigation must be the cornerstone of emergency planning, through developing partnerships in societies to make them participants in the response and recovery plans. The lesson learned is straightforward: governmental organizations need to proceed into planning for crisis management relying on local non-profit organizations, training and motivating them under a wide social network where all team formations communicate and collaborate as organic parts of an integrated dynamic system, maximizing the impact of disaster response (Communicable Crises, 2007).

- The requirements for responding to high scaled disasters are usually extremely demanding. Ginter (Ginter et al., 2006) describes the levels of prevention framework and states that public rescue networks should be transformed to Highly Reliability Organizations (HRO). The key to effective and rapid on set response is to have High- Reliability Preparedness Networks (HRPN).

III. TEAM COMPOSITION LITERATURE

A. TEAM FORMATION

Teams are a special subset of groups and different from groups due to several factors such as the commitment of the team members towards a mutually accountable unique purpose, as well as commitment to other team members (Katzenbach & Smith, 1993). Small size (approximately 8-10 members) and complimentary team member attributes also positively affect performance. Relevant skill categories include technical or functional expertise, problem-solving and decision-making skills, and interpersonal skills (Katzenbach & Smith, 1993).

Comparing team versus individual work contains various pros and cons. From a cognitive perspective, a team being composed of two or more people can translate into more ideas, options and perspectives towards a problem, and multiple roles to accomplish more diverse tasks, i.e., boundary spanning and obtaining organizational consensus. On the other hand, teams are usually impeded by member conflict and lack of cooperation and trust (Polzer, 1996).

Personalities of team members can also affect performance. Team members could be selected to bring together skills and attributes that will improve performance on the team's tasks. Knowledge, skill, and ability are especially important to achieve high performance in team settings (Morgeson, Reider, & Campion, 2005). At the point where knowledge management meets teamwork, there is the challenge of how to integrate professionals with each other and with the organization in ways that enhance professional identities and expert knowledge (Knowledge Work in Teams: Advances in Interdisciplinary Studies of Work Teams, Vol.2, 1995).

1. Knowledge Work in Teams

Knowledge work in teams is considered an important organizational asset, and collaborative knowledge can create substantial organizational value. Additionally, "knowledge and learning are social and distributed fields, rather than tightly encapsulated in any organization" (Collaborative Capital: Creating Intangible Value Advances in

Interdisciplinary Studies of Work Teams, 2005). Teamwork knowledge is positively related to team performance in the same way as job knowledge predicts the level of individual's performance in a given task (Morgeson, Reider, & Campion, 2005).

A challenging aspect of the team knowledge field is determining, obtaining and measuring the quantity and quality of knowledge needed to select optimal team composition to accomplish team tasks. According to Cooke and Salas (2007) "team knowledge features include type, homogeneity vs. heterogeneity, and rate of knowledge change. Measurement features include knowledge elicitation method, team metric, and aggregation method". The concept is that organizations conduct multi-operator tasks that require complex cognitive processing, able enough to secure accurate situational assessment and effective organizational coordination.

Maister (2000) argues that professionalism is not just a set of information and competencies, but a predominant attitude exceeding the high skills of technicians. This approach implies a "professional principle" different from the well known occupational principle that, according to Watson (2003) determines the structure of the modern industrial societies on the basis of the workers' occupational stratification. Dent (Managing Professional Identities: Routledge Studies in Business Organization and Networks, 2001) notes two reasons for considering professionalism as a source of organizational profit: (1) "professionalism requires employees to conduct controls and control themselves autonomously, but, crucially within an accountability network", and (2) professionalism inspires a high level of trust among co-workers.

2. Social and Personality Skills

Social skills are another relevant factor in team performance. In harmonious team settings interdependence among members increases, workload is shared, and coordination and skill is used to manage personal interaction conflicts. In this framework, the ability to communicate with others, to persuade and negotiate, to advocate and listen, are among the social attributes needed for effective team performance (Morgeson, Reider, & Campion, 2005).

Personality characteristics such as conscientiousness, extraversion, agreeableness, and emotional stability have been found to positively affect team performance leading to effective teams (Morgeson, Reider, & Campion, 2005). Annelies E.M. van Vianen and Carsten K.W. De Dreu confirmed the relationships between personality composition, cohesion, and team performance, including distinguishing between social cohesiveness and task cohesiveness. Social cohesiveness refers to the situation where an individual is attracted to the team resulting from h/er positive relationships with the other team members. Task cohesiveness refers to the situation where an individual is attracted to the team resulting from h/er shared commitment to the team task. They concluded that "minimum levels of conscientiousness and agreeableness contributed positively to both task cohesion and team performance. High mean levels of extraversion and emotional stability contributed positively to social cohesion" (Van Vianen & De Dreu, 2001).

3. Interaction Among Team Members

The understanding of team formation and performance goes together with the development of social skills among team members. Team orientation is affected by the level of interdependence, extent and type of team relations and the perception team members have for each other. Development of social relations can positively affect team operations, thus effective team leaders exhibit social skills that facilitate the social aspect of team work and reinforce team spirit (Levi, 2007).

One method of reinforcing meaningful team leadership is to let the team decide who leads under what conditions. Some leaders step back to see themselves and their team members in terms of which skills are needed during different phases of project development (Clemmer, 2003). The sharing of information between team members is crucial during periods of high interdependence. Team objectives can be constructed through dialogue, discussion, and constructive feedback (Anderson & Anderson, 2004).

In sum, literature indicates that team performance is multi-dimensional, i.e., the extent to which the team accomplished its purpose, team member satisfaction, and team learning or adaptability. As a team is a microcosm of a larger organization, additional factors affect performance: individual and mutual knowledge, expertise, decision-making

skills, social skills, and personality characteristics. Additionally during the initial stage of team formation the composition of members and selection of a unique team task matter.

B. SOCIAL NETWORKING

Since a primary objective is to design effective teams, researchers test and evaluate different criteria influencing team formation decisions. Categories that come into play include using social networking and demographic criteria. Managers often struggle with the extent to which potential team members will stimulate or detract from team performance. The question often revolves around attempting to fit team member attributes with the task in mind, knowing that a mismatch here might doom the team to dysfunction or lack of motivation. Selection based on social networks instead of demographic characteristics offers promise (Reagans, Zuckerman, & McEvily, 2004).

The rationale is that the social organizational network is characterized by homophily, which means that strong network connections naturally occur among those who share demographic characteristics such as race, gender, etc. The argument is that demographic diversity decreases team density because different demographics can yield weaker relationships. Demographic diversity may increase access to multiple cultural views and resources, but may weaken inter-individual relationships. Social networking appears to incur very different dynamics (McPherson & Smith-Lovin, 1987).

Personality factors of course matter when human beings make choices concerning other workplace members. Social homophily comes into play when social capital is formed within an organization (Mouw, Cook, & Massey, 2006). The matrix of social relations that is described as social capital can relate to labor market segments, i.e., there is evidence that social networks have a causal effect on labor market outcomes thereby influencing the field of organizational behavior (Mouw, 2003).

Adding complexity, the modern organizational world is semantically different at the point where change may be increasing in amount and scope making interactions between teams and individuals more unpredictable. Traditional team performance measures have been developed into computational models conducting project

management scenarios adding additional mediating factors among network players. Forno and Merlone (Dal Forno & Merlone, 2007) were interested in studying "the effects of different behavioral components in terms of team selection, agent aggregation and performance of groups". Their experimentation identified "some important behavioral components in the artificial agent interaction and team formation. The occurrence of two factors is crucial: the presence of leaders as aggregators of knowledge and a behavioral rule allowing the agents to improve their projects".

With the premise that teams must be capable of completing their tasks, then membership decisions become paramount, particularly when teams must work within and across functional areas such as sales, marketing or finance. McGreevy (2006) summarizes an important aspect of team process when he admonishes that effective teamwork fosters a collaborative rather than a competitive or adversarial approach.

C. TEAM FORMATION UNDER DIFFERENT ORGANIZATIONAL SITUATIONS

Team performance measurement often depends on the importance and the difficulty of the tasks that are completed. The more challenging and demanding the situation, the more effective and efficient a team would need to be. For example organizational context variables affecting team performance could include the extent of interaction needed with external and internal stakeholders, or a dominant organizational culture transfixed on individual performance. To broaden the literary scope, team formation is also considered through the lens of strategic planning, negotiations and managing through crisis.

1. Strategic Planning

Generating a meaningful organizational strategic plan may be one of the most difficult tasks senior leaders face. Christensen and Clayton (Christensen, 1997) approach this difficult accomplishment through the realization that "once companies have found a strategy that works, they want to use it, not change it. Consequently, most managers do not develop a competence in strategic thinking". After a senior management team has formulated a new strategy, general knowledge dictates that for effective implementation,

the strategy must be aligned with external environmental forces and trends affecting the organization, the needs and expectations of influential stakeholders and/or shareholders, and organizational design including capabilities, technology and rewards. Senior management teams are faced with translating their strategy to mid-level leaders and managers, who then translate expected behaviors to employees.

According to Jung-Chi Pai (2006), knowledge sharing is the most necessary implementation factor to achieve strategic objectives: “Numerous organizational mechanisms exist that can enhance knowledge sharing and transfer, furthermore, organizations could apply both group interaction and knowledge management mechanisms to promote their strategic planning”.

The same correlation between strategic groups and knowledge interaction among team members is emphasized by Lant (Lant & Phelps, 1999). She examines “learning in and among strategic groups, using a situated learning perspective in which knowledge and its meaning are negotiated and constructed by actors who interact in a community with which they identify”. It is all about the distribution of practices and strategic information to the team members that function as organizational policy makers.

Unexpectedly, strategy team composition and practices have drawn less attention in the strategic management literature. S. Paroutis and A. Pettigrew (2007) point out “the importance of both actions and interactions of corporate centre and business unit strategy teams during the strategy process, … that acting and knowing of these teams is dynamic, collective and distributed within the multi-business firm across two interrelated levels: within the team and across teams, each involving both recursive and adaptive activities”.

Selection procedures composing entrepreneurial strategy teams would tend towards selecting members more open to visionary thinking and acting. Birnbaum (2007) gives a short and simple description of what is expected to be the member of a strategic planning team: “However you choose your planning team members, make sure they’re smart. There is no substitute for intelligence among the management team. No process in the world will substitute for lack of intellect. So you’ll need to start with smart people on the planning team, including visionaries. Not everyone has a flair for thinking about the future. Be sure that at least a few of the people on your strategy team have such flair.

That they both enjoy the challenge and are somewhat skilled at future thinking… at least they're interested enough that they're eager to learn".

2. Team Negotiations

Negotiations can be approached on three levels, between individuals, as team negotiations, and mixed negotiations involving both individuals and teams. There are multiple studies guiding team leaders toward successful negotiations. According to the Journal of Comparative Sociology and Ethics (Chapter 10: Leader as Negotiator and Problem-Solver, 2006), the heart of success is that negotiations need to have a problem-solving orientation, under the mandate to discover common interests, build trust, and discover mutual gains solutions. Negotiating models, like Interest-Based Problem Solving (IPBS) cover all the negotiating phases including, "mission analysis, environmental impact analysis, search for a suitable arena, agenda definitions, objectives, generating alternate solution, criteria for selecting solutions, final deals, role of ethics in team dynamics, focus on organization' s core values and strategic interests, and criteria for evaluating outcomes".

From another perspective, it is not that simple to predetermine the success of any negotiation without taking into account the cultural parameters that characterize and differentiate the negotiating parts. Szeto, Wright and Cheng examined the business negotiating patterns in China, where inter-individual negotiations are almost non-existent. Business managers from all over the world visit China and make negotiations knowing that that their Chinese partners consider no individual person as responsible for the China business connections. Although they respect team leaders, they consider negotiating teams totally accountable, otherwise they would become confused. Negotiations are conducted on a team basis and approved at the corporate level of decision making (Szeto, Wright, & Cheng, 2006).

Negotiations take place in all kinds of social structure. From the international level around the Sino-Western negotiations mentioned above, to regional and local conflict resolutions. Buckwater (2003) analyzed the Arizona Interfaith network of Industrial Areas Foundation (IAF) community organizations that includes Tucson,

Phoenix and Scottsdale in an effort to strengthen their member congregations, to build human and social capital in communities around the State. Teams build their future by creating their particular organizational culture that deepens relations among members. During this process, an open dialogue takes place among several ideas, expressed with negotiations and confrontations, but finally this is a constructive and necessary tension for developing the evolving team identity (Buckwater, 2003).

3. Crisis Situations

Team performance would logically appear more difficult to achieve under crisis emergency situations for obvious reasons. Emergency events are characterized by high stakes and the likelihood of major losses. They also "exhibit a high level of uncertainty about what the outcomes will be and a high degree of contingency (significant variability in the possible outcomes under different choices of action)". Crisis emergencies are far more intensive and challenging because they deal with major novelties that indicate low initial situational awareness, and consequently lack of executable pre-determined remedy actions (Communicable Crises, 2007).

Teams tend to create self-identity and self-image over time. Experienced members through their prior member interactions may develop roles using heterogeneity and creativity experiences which concerns overall capability in the face of crisis. Organizational culture may or may not support crisis planning (King III, 2002). When leadership is met with emergencies and crisis situations, they may find their skills and capabilities limited, stretched and challenged. Extreme action systems would appear to need experienced and skilled leader responses. Additionally, team member communication and cooperation to undertake improvisational and adaptive behaviors also relates to overall capability in dynamic and threatening environments (K. J. Klein, Ziegert, Knight, & Yan Xiao, 2006).

Given that a primary objective would always be increased response quality during disaster situations, crisis management literature often leans toward ways to increase control and decrease stress and panic. The role of human capital in balancing contradictory variables, i.e., control and adaptation becomes markedly important.

Organizations involved in rescue operations can improve their performance based on training, building strong relationships among other responders, and recording and maintaining organizational memory. Previous operations can be analyzed and rehearsed, and collective and transactive memory integrated (Communicable Crises, 2007).

Handling crisis situations may relate directly to both victim and organizational survival. Poorly performing organizations can contribute to more injuries and death, and face becoming irrelevant unless improved. On a different note, the entrepreneurial style of planning, executing and reacting appears to provide a useful orientation. Several factors compose this aggressive, more business-like venue. Autonomy can create conditions for free thinking and acting where innovation and competitive skills can be deployed to take initiative and weigh risks. Additionally, proactive contingency planning to anticipate unpredictable factors is rational and systematic (Communicable Crises, 2007).

D. SOCIAL TIES AND TEAM PERFORMANCE

1. Co-working Experience and Professional Ties

Spending time together seems intuitive for building human relationships, personal and professional. Length of exposure may increase the likelihood of shared knowledge, information and experiences. Co-workers can coalesce into various groups whereby different sub-cultures emerge. Put differently, intersubjective knowledge can translate into a collaborative way of knowing and interpreting reality (Stahl, 2005).

Shared mental models establish schema similarity and form collective team memory described as transactive. The transactive memory system is a set of accumulated individual memory systems combined with the outcomes of the communication among individuals. It can work as individual memory aids because stored information is retrievable through historical communication with other team members. Transactive memory users may ask questions of members well-integrated into the social memory network, and receive answers originating from sources deep in the network not available

to all members. That stream of information beyond any individual and internal knowledge can become a powerful tool in utilizing co-worker experience in team structures (Wegner, 2007).

Co-worker status may be related to a person's satisfaction around their work. It is not only the type of work and the payment, but also the relationships with bosses and co-workers (Frisch, 2005). The positions of each individual in the organizational structure of the workflow, the communication patterns and the friendship networks all create perceptions of influence among co-workers, supervisors and subordinates. These perceptions have practical consequences for evaluation and promotion procedures (Brass, 1984).

2. Friendship

Friendships also can affect organizational development through complex network structures. An expectation is that people who have worked together in the past or who acknowledge professional relationships may be more likely to be friends. Additionally, early friendships can result in later similarity in structural organizational positions; i.e., social contacts form mutual friendships and co-working networks (Gibbons & Olk, 2003).

Friendships can create close interpersonal ties which can become well accepted, positive and amicable. Individuals are concerned for each other's well-being without reciprocation of benefits (Dirks, Shah, & Chervany, 2001). Ideas can travel through friendship networks and modify or impact organizational value systems. Friendship networks are more open to the transmission of new ideas than competitive advice networks, and they may share more interesting and innovative information. Ideally, advice and friendship networks find a balance point mingling stabilizing with creative characteristics respectively (Gibbons, 2004).

Existing theories on friendship and its effects on team performance provide conflicting arguments. There is the view that friendship (close informal contacts) can result in higher or lower team motivation. Such conflict can result due to variability around the notion of "informal relationships." Friendship ties are used equally for both

low level and non-productive, as well as high level and productive team member emotional involvement in these ties. Friendship ties tend to have only positive effects compared to "friendly" ties which have positive and negative effects on team performance (Kratzer, Leenders, & van Engelen, 2005).

The discussion around the positive or negative influence of friendship ties on organizational effectiveness tends to focus on business teams and their productivity or profitability. If friendships are divided in terms of those made inside against those made outside an organization, the external have positive results and the internals diminish team performance. Teams with close internal ties among members can become insular and reject communication with outside business influences. Cross-functional social activities among business associates can be enhanced to increase information flow and competitiveness between organizations (Labianca, 2004).

3. Trust

According to Dirks and Ferrin (2001) "Trust is a psychological state that provides a representation of how individuals understand their relationship with another party in situations that involve risk or vulnerability. Accordingly, trust embodies the accumulated experiences with, and knowledge about, the other party in situations involving vulnerability". In this framework, trust plays a key role and affects the way one perceives current actions as well as future actions of another party. Examined were two trust effects: the main effect dealing with the perception that high levels of trust result in high levels of cooperation and performance, and the moderating effect dealing with the way trust facilitates the conditions leading to high team performance.

Langfred (2004) posits that trust contributes positively toward team performance and he examines potential negative effects of trust not previously mentioned in the literature. He examined self-managing teams to see how trust and monitoring interacts with one's autonomy leading to high or low team performance. He wanted to see whether high levels of trust resulted in lower levels of team performance and conversely, in situations where trust and autonomy of team members were of great importance. In these situations, his findings showed that high levels of trust can be harmful to team

performance due to the reluctance of monitoring each team member actions. In other words, performance loses in situations where a high level of trust exists among team members in conjunction with high levels of individual autonomy leads to an unwillingness to monitor team member actions.

E. HYPOTHESES

Following the team member selection and composition literature, it is clear that team formation is a challenging, complex and important task, especially when high levels of performance are crucial. Team composition requirements vary in different settings of uncertainty, risk, time pressure, and interdependence. The more challenging and demanding the situation, the more effective and efficient a team must be. Skills, attributes, and relationships among team members clearly affect mutual performance.

In this framework, the following hypotheses are drawn and tested:

1. Hypothesis 1- Team Selection Criteria Change when Organizational Environment Also Changes

Team leaders responsible for team composition take into account the particular situation (i.e., strategic planning, negotiations, crisis) under which the team will perform, and therefore, they choose team members based on specific criteria that differ from situation to situation in terms of organizational framework and risk factors.

2. Hypothesis 2- Team Leaders in Different Hierarchical Positions Select Team Members in Different Ways

Team leaders responsible for team composition performing in similar organizational situations (i.e., strategic planning, negotiations, crisis), make their choices using different sets of criteria according to their seniority and their positioning in the organization hierarchy.

3. Hypothesis 3- Team Leaders Make Selection Decisions considering Friendship and Professional Ties with Candidate Members

Team leaders responsible for team composition performing in similar organizational situations (i.e., strategic planning, negotiations, crisis), make selection decisions after considering friendship, professional and co-working ties with potential members.

4. Hypothesis 4- Friendship, and Professional Ties between Team Leaders and Candidate Members Play More or Less of a Role in the Team Selection Process Regarding Organizational Environmental Changes

Team leaders responsible for the composition of several teams facing different organizational situations (i.e., strategic planning, negotiations, crisis) make selection decisions after considering friendship, professional and co-working ties with potential members according to the characteristics of the situations where the team is expected to perform.

5. Hypothesis 5- Team Leaders Take into Account Friendship, and Professional Ties among Candidate Team Members in the Selection Process

Team leaders responsible for the composition of several teams facing different organizational situations (i.e., strategic planning, negotiations, crisis) prefer more or less candidate team members that have established friendships, professional and co-working ties, according to the characteristics of the situations where the team is expected to perform.

6. Hypothesis 6- Team Selection Criteria can be Categorized into Concept Groups

Team selection criteria can be grouped or categorized into concept groups. When a team leader uses a primary selection criterion, s/he usually prefers secondary criteria from the same concept group. There are relationships among the team selection criteria that result in conceptual clusters over the networking map of each individual team.

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IV. METHODOLOGY

A. RESEARCH FRAMEWORK

The purpose of creating and administering a researchers-developed survey was to better understand how leaders assess team tasks and select members for their teams given different levels of task urgency. Three different situations were used ranging from a relatively common organizational situation to rapid response in a major emergency.

Participants in the study were assumed to have extensive leadership experience as a result of their positions as mid-level, U.S. and allied military officers. All were students pursuing master's degrees at the Graduate School of Business and Public Policy (GSBPP) of the Naval Postgraduate School (NPS). GSBPP offers a variety of functional management specialties with the following stated mission (GSBPP Overview, 2006),

> To improve the managerial capabilities and leadership qualities of US and International officers and government civilians through graduate education, research, and professional service. To develop students' abilities to analyze, think critically, and take intelligent action so they can more effectively carry out their professional responsibilities, and lead their organizations in complex, and sometimes life-threatening, environment. To conduct research that supports military decision making, problem solving, and policy setting, improves administrative processes and organizational effectiveness, contributes knowledge to academic disciplines, and advances the mission of graduate education. To provide professional expertise that supports the development of the Naval Postgraduate School, the Departments of Navy and Defense, and other branches of Government, as well as our professional and academic organizations.

The program is structured such that students begin with a specific cohort and attend nearly all of their classes together. Currently, the Graduate School of Business and Public Policy offers the following specialized curricula falling under six broad focus areas (GSBPP Curricula, 2006):

- Logistics Management:

  814- Transportation Management MBA

  819- Supply Chain Management MBA

827- Material Logistics Support MBA

- Acquisition Management

  815- Acquisition and Contract Management MBA

  816- Systems Acquisition Management MBA

  835- Contract Management MSCM

  836- Program Management MSPM

  721- Systems Engineering Management MSSEM

- Financial Management

  817- Defense Systems Analysis MBA

  837- Financial Management MBA

- Information Management

  870- Information Systems Management MBA

- Manpower Management

  847- Manpower Systems Analysis MSM

  856- Leadership and Educational Development MSLHRD

- Defense Systems Management

  818- Defense Systems Management –International MBA

  820- Resource Planning and Management for International Defense MBA

  805- Executive Master of Business Administration EMBA

Two studies were conducted with GSBPP student participants examining individual and network variables as described in the respective parts of this paper:

1. Study 1

Study 1 included students who entered the MBA program in June 2006. They answered the survey after four months of interaction while in their second quarter of the

program. Out of 59 students, a response from 28 yielded 47.46 percent. Table 1 is a summary of study 1 demographics by sex, curriculum, rank, service, and citizenship, i.e., descriptive statistics.

By Curriculum					**By Services**				
Curriculum Code	*Population*	*Ratio*	*Respondents*	*Ratio*	*Service*	*Population*	*Ratio*	*Respondents*	*Ratio*
685	1	2%	1	4%	Army	5	8%	0	0%
808	5	8%	3	11%	Navy	19	32%	11	39%
815	16	27%	10	36%	Air Force	22	37%	12	43%
816	5	8%	2	7%	Marine	12	20%	4	14%
817	1	2%	1	4%	Civilian	1	2%	1	4%
819	6	10%	2	7%	Total	59	100%	28	100%
827	7	12%	2	7%	**By Citizenship**				
837	12	20%	5	18%	*Citizenship*	*Population*	*Ratio*	*Respondents*	*Ratio*
847	6	10%	2	7%	US citizen	55	93%	26	93%
Total	59	100%	28	100%	Non-US citizen	4	7%	2	7%
By Rank					Total	59	100%	28	100%
Rank	*Population*	*Ratio*	*Respondents*	*Ratio*	**By Sex**				
Lieutenant Junior Grade	11	19%	6	21%	*Sex*	*Population*	Ratio	*Respondents*	*Ratio*
Lieutenant	25	42%	11	39%	Male	51	86%	25	89%
Lieutenant Commander	20	34%	9	32%	Female	8	14%	3	11%
Commander	2	3%	1	4%	Total	59	100%	28	100%
Civilian	1	2%	1	4%					
Total	59	100%	28	100%					

Descriptive Statistics Population & Respondents (in parentheses)							
	Rank #	*Sex M0F1*	*Navy*	*Army*	*Air Force*	*Marine*	*US1, other 0*
Mean	3.17 (3.07)	0.14 (0.11)	0.33 (0.41)	0.09 (0.00)	0.38 (0.44)	0.21 (0.15)	0.93 (0.93)
Std. Deviation	0.89 (1.02)	0.35 (0.32)	0.47 (0.50)	0.28 0.00	0.49 (0.51)	0.41 (0.36)	0.25 (0.26)
Range	5	1	1	1	1	1	1
N=59 were invited to participate in the survey							
N=28 participated to the survey							

Table 1. Summary Demographics and Descriptive Statistics for study 1

2. Study 2

Study 2 included students who entered the MBA program in January 2006. They answered the survey after 11 months of interaction while in their fourth quarter of the program. Out of 62 students, 41 responded yielding a response rate of 66.13 percent. Table 3 is a summary of study 2 demographics by sex, curriculum, rank, service, and citizenship, i.e., descriptive statistics.

By Curriculum					***By Services***				
Curriculum Code	*Population*	*Ratio*	*Respondents*	*Ratio*	*Service*	*Population*	*Ratio*	*Respondents*	*Ratio*
814	1	2%	0	0%	Army	15	24%	10	24%
815	12	19%	8	20%	Navy	41	66%	26	63%
816	7	11%	3	7%	Air Force	6	10%	5	12%
818	5	8%	4	10%	Marine	0	0%	0	0%
819	2	3%	2	5%	Civilian	0	0%	0	0%
820	3	5%	3	7%	Total	62	100%	41	100%
827	2	3%	2	5%	***By Citizenship***				
837	24	39%	17	41%	*Citizenship*	*Population*	*Ratio*	*Respondents*	*Ratio*
847	6	10%	2	5%	US citizen	42	68%	26	63%
Total	62	100%	41	100%	Non-US citizen	20	32%	15	37%
By Rank					Total	62	100%	41	100%
Rank	*Population*	*Ratio*	*Respondents*	*Ratio*	***By Sex***				
Lieutenant Junior Grade	11	18%	7	17%	*Sex*	*Population*	Ratio	*Respondents*	*Ratio*
Lieutenant	35	56%	21	51%	Male	55	89%	36	88%
Lieutenant Commander	14	23%	11	27%	Female	7	11%	5	12%
Commander	2	3%	2	5%	Total	62	100%	41	100%
Civilian	0	0%	0	0%					
Total	62	100%	41	100%					

Descriptive Statistics Population & Respondents (in parentheses)							
	Rank #	*Sex M0F1*	*Navy*	*Army*	*Air Force*	*Marine*	*US1, other 0*
Mean	3.11 (3.20)	0.11 (0.12)	0.66 (0.63)	0.24 (0.24)	0.10 (0.12)	0.00 (0.00)	0.68 (0.63)
Std. Deviation	0.73 (0.78)	0.32 (0.33)	0.48 (0.49)	0.43 (0.43)	0.30 (0.33)	0.00 (0.00)	0.47 (0.49)
Range	3	1	1	1	1	0	1
N=62 were invited to participate in the survey							
N=41 participated to the survey							

Table 2. Summary Demographics and Descriptive Statistics for Study 2

Within the military environment, rank is assumed to reflect respective levels of experience - the higher the rank, the higher the expected experience level in leadership training, education and actual experience. For example, Navy Lieutenants have a minimum of four-years experience, whereas Commanders have approximately 16-years. The promotion flow, showing the years a military officer typically serves while obtaining promotions at each level is presented in table 3:

Promote to:	Time in Service	Minimum Time in Grade Required by Law	Promotion Opportunity
O-2 (Lieutenant Junior Grade)	18 months	18 months	Fully qualified (nearly 100%)
O-3 (Lieutenant)	4 years	2 years	Fully qualified (nearly 100%)
O-4 (Lieutenant Commander)	10 years	3 years	Best qualified (80%)
O-5 (Commander)	16 years	3 years	Best qualified (70%)
O-6 (Captain)	22 years	3 years	Best qualified (50%)
note 1: "promote to" column presents the paygrade which is common among the different services. In parentheses, the respective rank possesion is indicated based on Navy steps.			

Table 3. Promotion Flow Chart (From: http://usmilitary.about.com/od/promotions/l/blofficerprom.htm Retrieved on April 1, 2007. After: Changes by researchers)

B. SUMMARY OF THE SURVEY

The survey contains three parts:

1. Part I: Personality Questions

Participants were given 50 phrases describing people's behaviors based on the 50 factor model developed by Lewis Goldberg (1999) to explicitly assess the "Big Five" personality characteristics. The instrument asked each respondent to report the extent to which each phrase describes h/er. Response options ranged from one to five, with one being very inaccurate, and five very accurate (appendix A). The five personality factors include urgency/extraversion, agreeableness, conscientiousness, emotional stability, and intellect/openness to experience. Urgency/Extraversion refers to the way people behave in social situations; some seek the company of others whereas other are more quiet. Agreeableness refers to the way people interact with others; some are more cooperative,

others are less cooperative. Conscientiousness refers to the way people are organized and focused on tasks; some being more organized than others. Emotional Stability refers to the way people react to negative situations and feelings; some are more emotionally distressed than others. Intellect/Openness to Experience refers to the extent which they are interested in different cultural experiences; some being more open-minded than others (Buchanan, 2001).

2. Part II: Relationships/Ties to Others

Participants were given the list of names of the officers who entered the MBA program at the same time period. Study 1 participants were given the list of those being in the same class registered in the MBA program in June 2006, whereas study 2 participants were given the list of their fellow officers in the same class entering in December 2005. Participants of both studies had to choose those they knew (default value for the skipped persons was zero to indicate that they do not know that person) addressing the relationships they had developed in the following areas:

For study 1, the questionnaire was as follows (Appendix B):

a. Professional Opinion

Participant indicates with a rating scale from one to five (with one being minimal relationship, and five being extensive relationship) the extent to which s/he has a professional relationship with each of the people s/he knows.

b. Friendship

Participant indicates with a rating scale from one to five (with one being positive acquaintance and five being close friend) the extent to which s/he considers each of the people s/he knows as a friend.

c. Rely On

Participant indicates with a rating scale from one to five (with one being not at all, and five being completely willing) how willing s/he is to rely on each person if a rapid response was required.

d. Relationship Mapping

In this part, participants had to indicate and map the relationships among the persons s/he named, including the extent to which they interact with each other as

friends and as professionals The rating scale was from one indicating a weak relationship, to five indicating a strong relationship. For the people who the participant was not aware of any relationship, the default value was zero to indicate there was no relationship between them.

For study 2, the questionnaire was as follows (Appendix C):

a. Worked Together

Participant indicates whether s/he has worked with each person, with 0= not worked together, 1=worked together.

b. Professional Opinion

Participant indicates with a rating scale from one to five (with one being not at all, and five being consistently) the extent to which s/he pays attention to each person's professional opinions.

c. Friendship

Participant indicates with a rating scale from one to five (with one being not at all, and five being close friend) the extent to which s/he views each person as a friend.

d. Rely On

Participant indicates with a rating scale from one to five (with one being not at all, and five being completely willing) how willing s/he is to rely on each person if a rapid response was required.

This part of the survey is different for the two studies regarding co-worker experience. For study 1, it is assumed that there is no such variable to be measured since participants of study 1 were in their first MBA quarter, in contrast with participants of study 2 who had already interacted with each other for 11 months. So, for this part of the survey study 1 participants had only to address their ties to those they knew regarding the professional opinion factor, the friendship factor, and the reliance factor. In addition to these factors, study 2 participants had to further address whether they had worked together or not with the person they were stating their relationship ties.

3. Part III: Leadership Scenarios

Participants were given three scenarios describing different levels of urgency, risk, time pressure, and situational stability. The three different situations ranged from a common organizational situation to rapid response in a major emergency. These situations had to deal with team tasks reflecting low to high uncertainty: (1) a business strategy team had to develop strategic planning for their organization; (2) a negotiating team had to defend their organization's interests against opposing stakeholders; and (3) an emergency response team had to face a dangerous and rapidly changing situation where they had to provide immediate emergency assistance.

This part included open-ended questions with the respective sections as follows (Appendix D):

a. Determine which Attributes Team Members Must Have to Succeed

b. Assess His / Her Strengths and Weaknesses for the Respective Situations

c. Team Member Choices with the Following Perspective

(1) Participant's team member choices (up to five), and

(2) Strengths and weaknesses for each one team member chosen

C. INDIVIDUAL VARIABLES

Individual variables for the purpose of these two studies resulted from the following material:

1. Personality questions, where the participants answered questions about themselves (refers to the above PART I of the survey).
2. Peer's critique, referring to PART III, section c (2).
3. Self critique for each situation given referring to PART III, section b.
4. Assessment for each team composition referring to PART III, section a.

D. NETWORK VARIABLES

Network variables for the purpose of these two studies resulted from the following material:

1. Relationships/Ties among the executives in general described in PART II of the survey.

2. Team composition for each situation described in PART III section c (1) of the survey.

E. DATA PROCESSING OF SURVEY OPEN-ENDED QUESTIONS

The first step in processing the survey data regarding team composition under different situations was the transformation of the information given in the answers into specific attitudes, attributes and decision making criteria. This process formulated a list of 20 generic categories that embody the main reasons why the participants, playing their team leading and composing role, chose the other team members to achieve team efficiency and effectiveness. These categories are presented in the following table:

	Categories	Characteristic Actual Responses Given
1	Individual Communication skills (InflCmu)	"articulate, listening and speaking skills, good English speaker and writer, verbose, God-like communication skills"
2	Social Communication Skills (InflSocSkills)	"persuasive ability, presents himself well, marketing experience, manage stakeholders, charming personality"
3	Ethics	"integrity, ethical, humanitarian, idealist"
4	Experience	"varied background, organizational experience, experience in different settings"
5	Imagination	"think outside the box, innovation, creativity, vision, foresight, big picture"
6	Knowledge	"superior, local, organizational knowledge"
7	Leadership	"charismatic, strong personality, ability to think and act independently, set priorities, handling changes, fearless, born leader"
8	Miscellaneous	"diversity, egoism, opinionated, wide cultural perspective, international perspective"
9	Motivation	"goal oriented, persistence, enthusiastic, ambitious, dedicated, willingness"
10	Personality/Agreeableness (PersAgree)	"cooperativeness, work well with others, positive attitude, affable, help those in need, friendliness, sympathetic"
11	Personality/Conscientiousness (PersConsc)	"sense of duty, well organized, tenacity, likes order, discipline, attention to detail, concise"
12	Personality/Emotional Stability (PersEmoStab)	"handle stress, cool under pressure, peaceful, anger management, sustainability, balanced, even temperament"
13	Personality/Openness to new ideas (PersOpen)	"open to new ideas, adaptive, adventurous, agile, open-minded to understand opposing arguments"
14	Personality/Surgency (PersExtro)	"outgoing, decisiveness, assertiveness, self confidence, speaks his mind often"
15	Physical Strength (PhysStrength)	"fitness, survivor, extreme athletic attitude, tough as nails, physically strong"
16	Professional capabilities (ProfCap)	"resourceful, fulfill tasks, get things done, well rounded officer, execute fast, professionalism, effectiveness"
17	Reliable	"loyal, credible, dependable, trustworthy, reliable"
18	Social capital (SocCapital)	"knowledge of stakeholders, extensive professional network, good connections, public relations, social network"
19	Team Spirit.	"sense of teamwork, team-player, good partner, group-worker "
20	Thinking Ability	"highly intelligent, brilliant mind, analytical, thoughtful, critical thinking, objectivity, fast thinker, logical frame"
note: category abbreviations appear in parentheses		

Table 4. Participants' Responses Regarding Team Member Attributes

Finally, participants were categorized into junior and senior officers per study to determine any differences among them regarding their team member choices justification and criteria. Respondents/participants rank ranged in the following ascending order: Lieutenant Junior Grade, Lieutenant, Lieutenant Commander, and Commander. For this part of data analysis and based on Navy steps, Lieutenant Junior Grade and the respective officers in Air Force, Army, and Marine Corps as well as Lieutenant officers were categorized as junior, whereas Lieutenant Commander and Commander as senior.

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V. ANALYSIS OF DATA

A. INTRODUCTION

This chapter presents the results of the data analysis collected from the respondents to the survey. First, correlation data are presented for both studies regarding the relationship ties among the respondents as well as the correlation between demographic and personality factors. Second, analysis of each situation is presented within the frame of what attributes each study considers to have in its possession, what is desired to have, and what participants actually choose for each situation to perform effectively. Third, respondents were categorized by rank and consequently their choices were examined through a junior versus senior approach.

The findings of the survey are presented in three major areas: relationship ties and personality factors, task assessment by team leaders, seniority and their team member choices attributes.

B. RELATIONSHIP TIES AND PERSONALITY FACTORS

In the following table, correlations are presented among the two studies. Study 1 correlations appear below the diagonal, and study 2 correlations appear above the diagonal. Study 1 has no correlation for the "worked together" variable since participants of study 1 were in their first three months of interaction and thus no previous co-working experience is deemed. This is in contrast to the participants of study 2 who had co-working experience based on the so far 11 month interaction. As can be seen from the following table, the majority of variables (i.e., friendship, professional opinion, reliance, and co-working experience) are related to each other significantly (p-value ≤ 0.001). For example, friendship is positively related to the reliability one has for a person, as well as when one is granted as having professional opinion being positively related to the reliability one has for that person. Team member choices for all scenarios; strategic planning, negotiations, and crisis, are formulated based on criteria such as friendship, professional opinion and reliability. These are positively related to the final choice the team leader/chooser will make to perform for each situation. Being in the same cohort is

related positively with the decision of choosing a team member who is in the same cohort as well. On the other hand, being in the same cohort is related positively only to friendship, professional opinion, and reliability and may have nothing to do with the team member choices under the different situations for study 1, whereas study 2 indicates no correlation between them.

	Variable	1	2	3	4	5	6	7	8	9
1	Worked Together		0.778*	0.774*	0.765*	0.257*	0.235*	0.201*	0.401*	0.040
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.120)
2	Friendship			0.896*	0.919*	0.279*	0.257*	0.262*	0.382*	0.071
				(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.039)
3	Professional Opinion		0.952*		0.929*	0.280*	0.282	0.241*	0.377*	0.066
			(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.067)
4	Rely On		0.934*	0.942*		0.272*	0.257*	0.250*	0.358*	0.082
			(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.023)
5	Team Member Choices for Strategic Planning		0.229*	0.256*	0.242*		0.268*	0.213*	0.129*	-0.014
			(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.270)
6	Team Member Choices for Negotiations Situation		0.199*	0.203*	0.233*	0.281*		0.233*	0.105*	0.000
			(0.000)	(0.000)	(0.000)	(0.001)		(0.000)	(0.000)	(0.499)
7	Team Member Choices for Crisis Situation		0.130*	0.160*	0.167*	0.218*	0.281*		0.114*	-0.019
			(0.001)	(0.000)	(0.000)	(0.000)	(0.001)		(0.000)	(0.210)
8	Same Initial Cohort		0.245*	0.244*	0.243*	0.091*	0.089*	0.086*		-0.014
			(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)		(0.246)
9	Same Service		0.094*	0.091*	0.093*	0.027	0.008	-0.009	0.092	
			(0.001)	(0.001)	(0.001)	(0.154)	(0.391)	(0.373)	0.007	

note 1:study 1 correlations appear below, and study 2 correlations appear above the diagnonal, with p-values in parentheses

note 2: study 1 has no correlation info regarding the "worked together" variable, since it is assumed that no previous co working experience exists.

Table 5. Correlations among Network Variables for Both Studies

Finally, correlations regarding factors such as personality characteristics, rank possession, and service in conjunction with the different demands per scenario are presented among the two studies in the following table. In this table, study 1 correlations appear below the diagonal, and study 2 correlations appear above the diagonal. Study 2 has no correlation for the “marine member” variable since there was no marine officer in this study.

	Variable	study 1 mean (s.d)	study 2 mean (s.d)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Sex Male 0/Female 1	0.140	0.110		-0.127	0.148	-0.202	0.056		0.114	0.192	0.054	-0.309*	-0.073	0.358**	0.161	0.110
		(0.345)	(0.319)		(0.327)	(0.252)	(0.116)	(0.668)		(0.447)	(0.197)	(0.721)	(0.035)	(0.625)	(0.004)	(0.211)	(0.395)
2	Rank (number)	3.170	3.110	-0.243		-0.266*	0.277*	0.024		-0.232	-0.067	-0.172	-0.136	-0.054	0.020	0.047	-0.047
		(0.894)	(0.727)	(0.063)		(0.037)	(0.029)	(0.851)		(0.116)	(0.655)	(0.247)	(0.363)	(0.719)	(0.878)	(0.720)	(0.715)
3	Navy Member	0.328	0.661	-0.259	0.221		-0.789**	-0.457**		-0.198	0.079	0.263	-0.057	-0.097	-0.161	-0.084	-0.075
		(0.473)	(0.477)	(0.050)	(0.096)		(0.000)	(0.000)		(0.182)	(0.598)	(0.074)	(0.701)	(0.518)	(0.212)	(0.517)	(0.563)
4	Army Member	0.086	0.242	-0.114	-0.243	-0.214		-0.185		0.201	-0.028	-0.208	0.067	0.132	0.061	0.110	0.135
		(0.283)	(0.432)	(0.395)	(0.066)	(0.106)		(0.150)		(0.175)	(0.854)	(0.160)	(0.655)	(0.377)	(0.638)	(0.396)	(0.297)
5	Air Force Member	0.379	0.097	0.474**	-0.177	-0.546**	-0.240			0.022	-0.091	-0.121	-0.007	-0.042	0.169	-0.025	-0.075
		(0.489)	(0.298)	(0.000)	(0.184)	(0.000)	(0.069)			(0.883)	(0.543)	(0.419)	(0.962)	(0.780)	(0.189)	(0.849)	(0.561)
6	Marine Member	0.207	0.000	-0.189	0.125	-0.356**	-0.157	-0.399**									
		(0.409)	(0.000)	(0.155)	(0.351)	(0.006)	(0.240)	(0.002)									
7	Extroversion Score	3.079	3.070	-0.091	0.027	-0.188	-0.009	0.128	0.072		0.410**	-0.044	0.328*	0.495*	0.161	0.213	0.251
		(0.740)	(0.766)	(0.497)	(0.838)	(0.162)	(0.949)	(0.342)	(0.596)		(0.004)	(0.770)	(0.025)	(0.000)	(0.280)	(0.151)	(0.088)
8	Agreeable Score	3.731	3.743	0.156	-0.108	-0.184	0.188	0.194	-0.147	0.302**		0.096	0.014	0.128	0.076	-0.004	0.043
		(0.588)	(0.447)	(0.242)	(0.421)	(0.171)	(0.161)	(0.149)	(0.276)	(0.021)		(0.521)	(0.927)	(0.393)	(0.613)	(0.981)	(0.775)
9	Conscientious Score	3.987	3.880	0.072	0.076	-0.056	0.100	0.110	-0.135	-0.058	-0.002		0.157	0.014	0.233	0.012	0.047
		(0.492)	(0.523)	(0.591)	(0.571)	(0.681)	(0.461)	(0.417)	(0.318)	(0.664)	(0.986)		(0.292)	(0.928)	(0.115)	(0.938)	(0.755)
10	Emotional Stability Score	3.567	3.240	-0.250	0.167	-0.038	-0.085	0.043	0.052	0.048	0.034	0.134		0.225	0.074	0.083	0.065
		(0.731)	(0.674)	(0.058)	(0.211)	(0.781)	(0.530)	(0.753)	(0.701)	(0.718)	(0.797)	(0.314)		(0.129)	(0.622)	(0.578)	(0.663)
11	Creativity Score	3.497	3.511	-0.102	-0.035	-0.199	0.099	0.045	0.108	0.092	0.195	0.030	0.107		0.182	0.388**	0.348*
		(0.483)	(0.635)	(0.447)	(0.792)	(0.139)	(0.465)	(0.740)	(0.424)	(0.491)	(0.142)	(0.821)	(0.423)		(0.221)	(0.007)	(0.017)
12	Chosen Strategic Planning	0.966	1.242	0.186	-0.180	0.076	-0.257	0.208	-0.160	0.016	0.161	0.048	0.092	0.130		0.554**	0.315*
		(1.144)	(1.479)	(0.158)	(0.173)	(0.569)	(0.051)	(0.117)	(0.231)	(0.908)	(0.227)	(0.719)	(0.491)	(0.333)		(0.000)	(0.013)
13	Chosen Negotiations	0.729	1.307	0.122	-0.093	0.083	-0.107	0.035	-0.065	0.307*	0.155	0.171	0.110	-0.157	0.466**		0.770**
		(0.887)	(1.869)	(0.357)	(0.482)	(0.533)	(0.426)	(0.793)	(0.628)	(0.019)	(0.246)	(0.199)	(0.412)	(0.239)	(0.000)		0.000
14	Chosen Crisis	0.848	1.210	-0.081	-0.079	0.021	-0.061	-0.364**	0.454**	0.022	-0.111	0.092	-0.117	-0.017	0.216	0.453**	
		(1.096)	(1.651)	(0.541)	(0.553)	(0.876)	(0.649)	(0.005)	(0.000)	(0.868)	(0.406)	(0.492)	(0.382)	(0.897)	(0.101)	(0.000)	

note 1: study 1 correlations appear below, and study 2 correlations appear above the diagnonal, with p-values in parentheses

note 2: *. Correlation is Significant at the 0.05 level (2-tailed)

note 3: **. Correlation is Significant at the 0.01 level (2-tailed)

Table 6. Correlation among Personality, Rank Possession, and Service under each Scenario for Both Studies

For study 1, to be chosen under crisis situation is positively related to the fact of being a U.S. Marine officer, and team negotiation formation is positively related to the team strategic planning formation. Agreeableness is positively related to the extraversion personality and team negotiation formation is positively related to extraversion characteristics.

For study 2, creativity plays a direct impact under negotiations and crisis situation, and extraversion is positively related with agreeableness, emotional stability, and creativity.

C. TASK ASSESSMENT BY TEAM LEADERS

The way team leaders assessed the task for each scenario and selected team members is presented here. This part is further described under the different situations of strategic planning, negotiations, and crisis situation.

1. Strategic Planning

First, participants assessed themselves for this situation. Participants of study 1 described themselves as having motivation (16.22%), leadership and agreeableness (13.51% each), individual communication skills, ethics, and thinking ability (8.11% each) for this situation. Participants of study 2 assessed themselves as having motivation and team spirit with a 15.56% respectively, and thinking ability as 13.33%. Self assessment phase is summarized in the following figure for both studies:

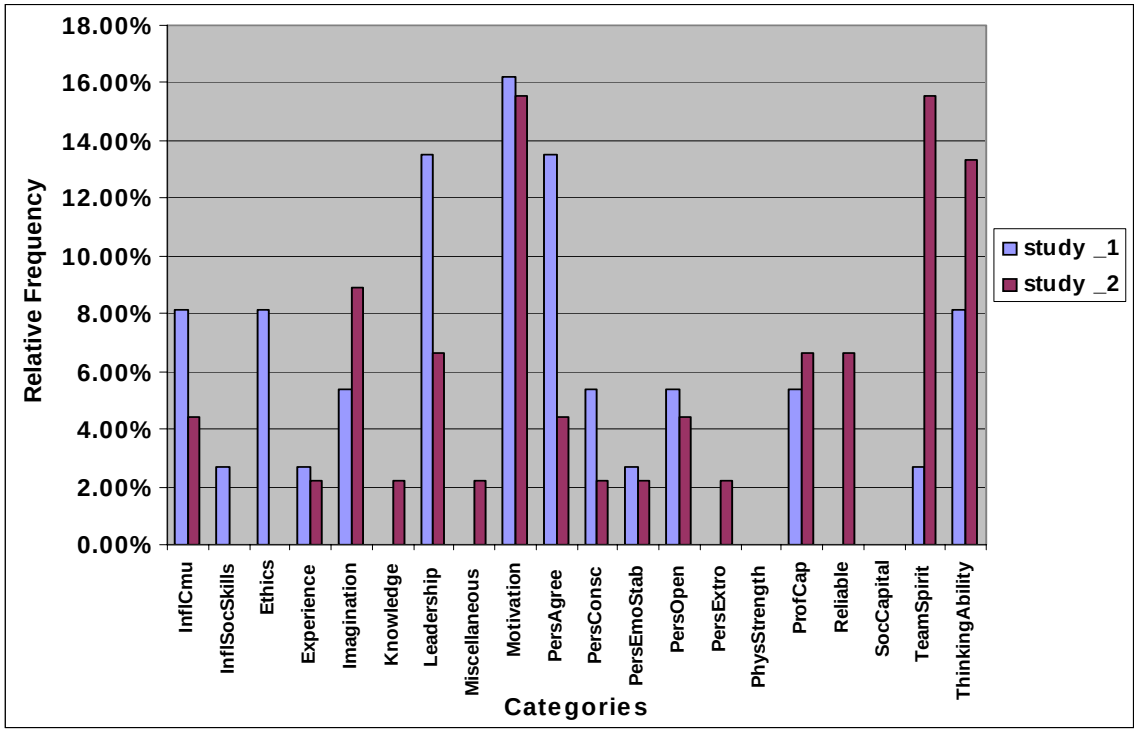

Figure 1. Self Assessment in the Strategic Planning, study 1 and 2. (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	8.11%	4.44%	PersConsc	5.41%	2.22%
InflSocSkills	2.70%	0.00%	PersEmoStab	2.70%	2.22%
Ethics	8.11%	0.00%	PersOpen	5.41%	4.44%
Experience	2.70%	2.22%	PersExtro	0.00%	2.22%
Imagination	5.41%	8.89%	PhysStrength	0.00%	0.00%
Knowledge	0.00%	2.22%	ProfCap	5.41%	6.67%
Leadership	13.51%	6.67%	Reliable	0.00%	6.67%
Miscellaneous	0.00%	2.22%	SocCapital	0.00%	0.00%
Motivation	16.22%	15.56%	TeamSpirit	2.70%	15.56%
PersAgree	13.51%	4.44%	ThinkingAbility	8.11%	13.33%

Table 7. Percentages Each Category Received as Self Assessment in the Strategic Planning Situation

Following their self assessment they indicated what attributes were desired for the specific situation to deal with it effectively. Participants of study 1 indicated motivation with 13.85%, thinking ability (10.77%), and conscientiousness (9.23%), whereas participants of study 2 indicated motivation with 15.00%, thinking ability with 12.50%, and imagination with 11.25%. Desired attributes for this situation are illustrated with the following figure for both studies:

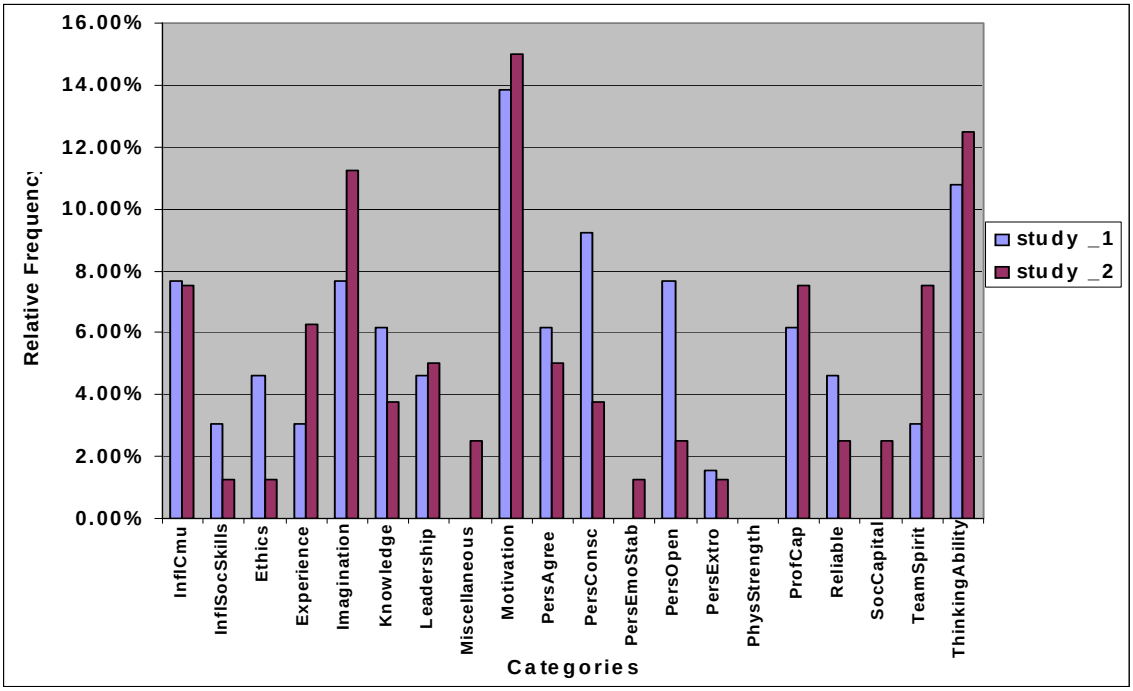

Figure 2. Desired Team Attributes in Strategic Planning, study 1 and 2 (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	7.69%	7.50%	PersConsc	9.23%	3.75%
InflSocSkills	3.08%	1.25%	PersEmoStab	0.00%	1.25%
Ethics	4.62%	1.25%	PersOpen	7.69%	2.50%
Experience	3.08%	6.25%	PersExtro	1.54%	1.25%
Imagination	7.69%	11.25%	PhysStrength	0.00%	0.00%
Knowledge	6.15%	3.75%	ProfCap	6.15%	7.50%
Leadership	4.62%	5.00%	Reliable	4.62%	2.50%
Miscellaneous	0.00%	2.50%	SocCapital	0.00%	2.50%
Motivation	13.85%	15.00%	TeamSpirit	3.08%	7.50%
PersAgree	6.15%	5.00%	ThinkingAbility	10.77%	12.50%

Table 8. Percentages Each Category Received as Desired Team Attributes in Strategic Planning Situation

At last, participants selected their team members justifying their choices using specific attributes. The prevailing attribute for study 1 was thinking ability with 15.58%, following agreeableness with 14.29%, and motivation with 10.39%. Study 2 justifications were thinking ability with 12.69%, motivation 11.19%, and leadership and professional capabilities with 8.96% each. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for both studies:

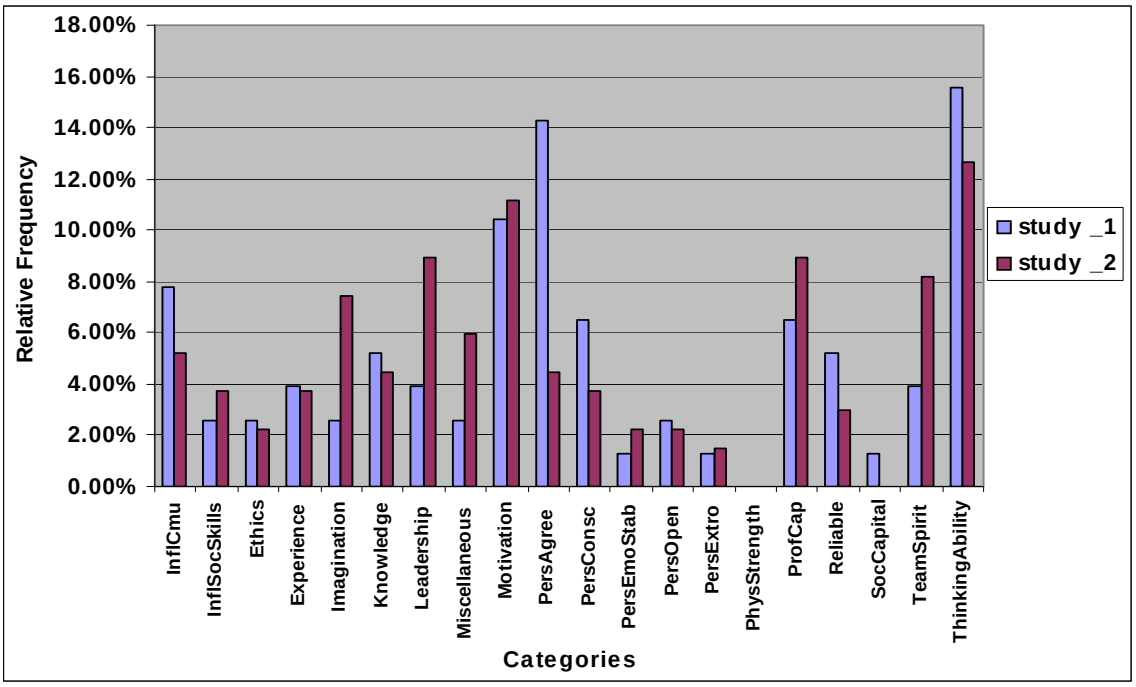

Figure 3. Team Choices Attributes in Strategic Planning, study 1 and 2. (Developed by researchers).

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	7.79%	5.22%	PersConsc	6.49%	3.73%
InflSocSkills	2.60%	3.73%	PersEmoStab	1.30%	2.24%
Ethics	2.60%	2.24%	PersOpen	2.60%	2.24%
Experience	3.90%	3.73%	PersExtro	1.30%	1.49%
Imagination	2.60%	7.46%	PhysStrength	0.00%	0.00%
Knowledge	5.19%	4.48%	ProfCap	6.49%	8.96%
Leadership	3.90%	8.96%	Reliable	5.19%	2.99%
Miscellaneous	2.60%	5.97%	SocCapital	1.30%	0.00%
Motivation	10.39%	11.19%	TeamSpirit	3.90%	8.21%
PersAgree	14.29%	4.48%	ThinkingAbility	15.58%	12.69%

Table 9. Percentages Each Category Received as Team Choices Attributes in Strategic Planning Situation

2. Negotiations Situation

Participants of study 1 described themselves as having leadership, motivation, conscientiousness, and thinking ability with 13.04% respectively, and individual communication skills, social communication skills, ethics, and experience with 8.70% respectively. Participants of study 2 assessed themselves as having motivation with 17.39%, and individual communication skills, leadership, and thinking ability with 13.04% respectively. Self assessment phase is summarized in the following figure for both studies:

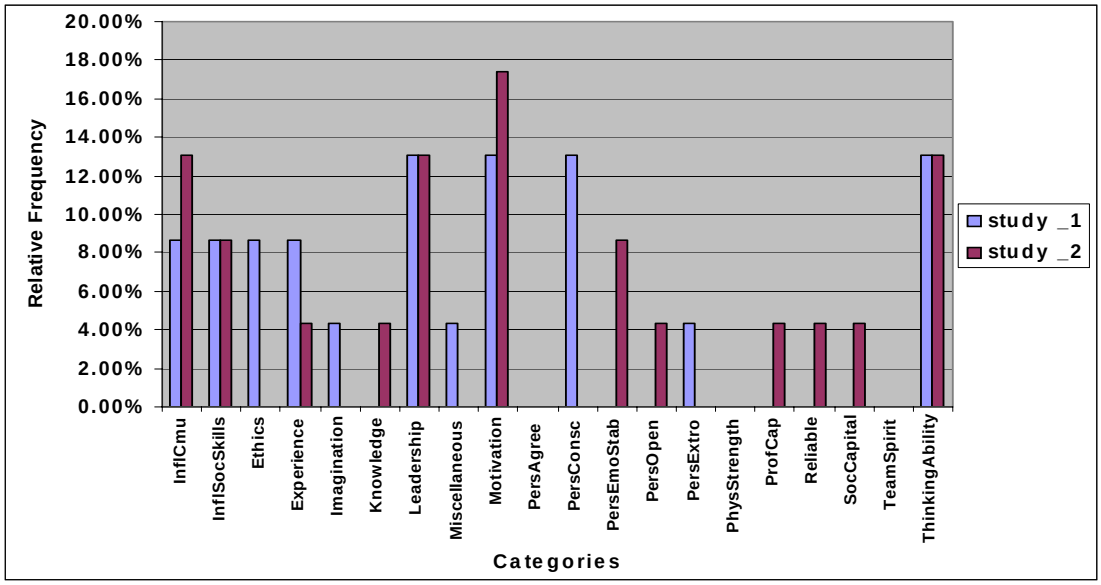

Figure 4. Self Assessment in Negotiations Situation, study 1 and 2. (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	8.70%	13.04%	PersConsc	13.04%	0.00%
InflSocSkills	8.70%	8.70%	PersEmoStab	0.00%	8.70%
Ethics	8.70%	0.00%	PersOpen	0.00%	4.35%
Experience	8.70%	4.35%	PersExtro	4.35%	0.00%
Imagination	4.35%	0.00%	PhysStrength	0.00%	0.00%
Knowledge	0.00%	4.35%	ProfCap	0.00%	4.35%
Leadership	13.04%	13.04%	Reliable	0.00%	4.35%
Miscellaneous	4.35%	0.00%	SocCapital	0.00%	4.35%
Motivation	13.04%	17.39%	TeamSpirit	0.00%	0.00%
PersAgree	0.00%	0.00%	ThinkingAbility	13.04%	13.04%

Table 10. Percentages Each Category Received as Self Assessment in Negotiations Situation

Following self assessment, they indicated what attributes were desired for the specific situation to deal with it effectively. Participants of study 1 indicated motivation with 17.14%, and individual communication skills, experience, knowledge, conscientiousness, and professional capabilities with 8.57% each. Participants of study 2 indicated individual communication skills with 20.37%, social communication skills with 18.52%, and motivation with 14.81%. Desired attributes for this situation are illustrated with the following figure for both studies:

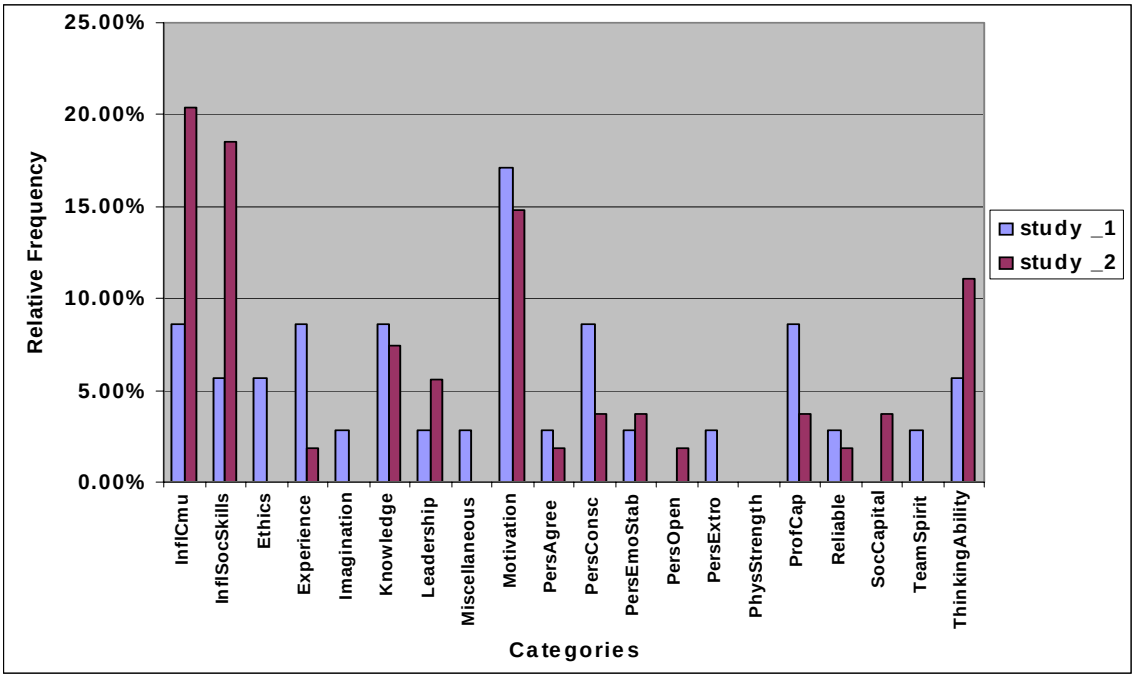

Figure 5. Desired Team Attributes in Negotiations Situation, study 1 and 2 (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	8.57%	20.37%	PersConsc	8.57%	3.70%
InflSocSkills	5.71%	18.52%	PersEmoStab	2.86%	3.70%
Ethics	5.71%	0.00%	PersOpen	0.00%	1.85%
Experience	8.57%	1.85%	PersExtro	2.86%	0.00%
Imagination	2.86%	0.00%	PhysStrength	0.00%	0.00%
Knowledge	8.57%	7.41%	ProfCap	8.57%	3.70%
Leadership	2.86%	5.56%	Reliable	2.86%	1.85%
Miscellaneous	2.86%	0.00%	SocCapital	0.00%	3.70%
Motivation	17.14%	14.81%	TeamSpirit	2.86%	0.00%
PersAgree	2.86%	1.85%	ThinkingAbility	5.71%	11.11%

Table 11. Percentages Each Category Received as Desired Team Attributes in Negotiation Situation

At last, participants selected their team members justifying their choices using specific attributes. The prevailing attribute for study 1 was motivation with 14.29%, and individual communication skills, social communication skills, conscientiousness, and thinking ability with 11.43%. Study 2 justifications were motivation with 11.36%, and individual communication skills, social communication skills, and thinking ability 9.09% each. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for both studies:

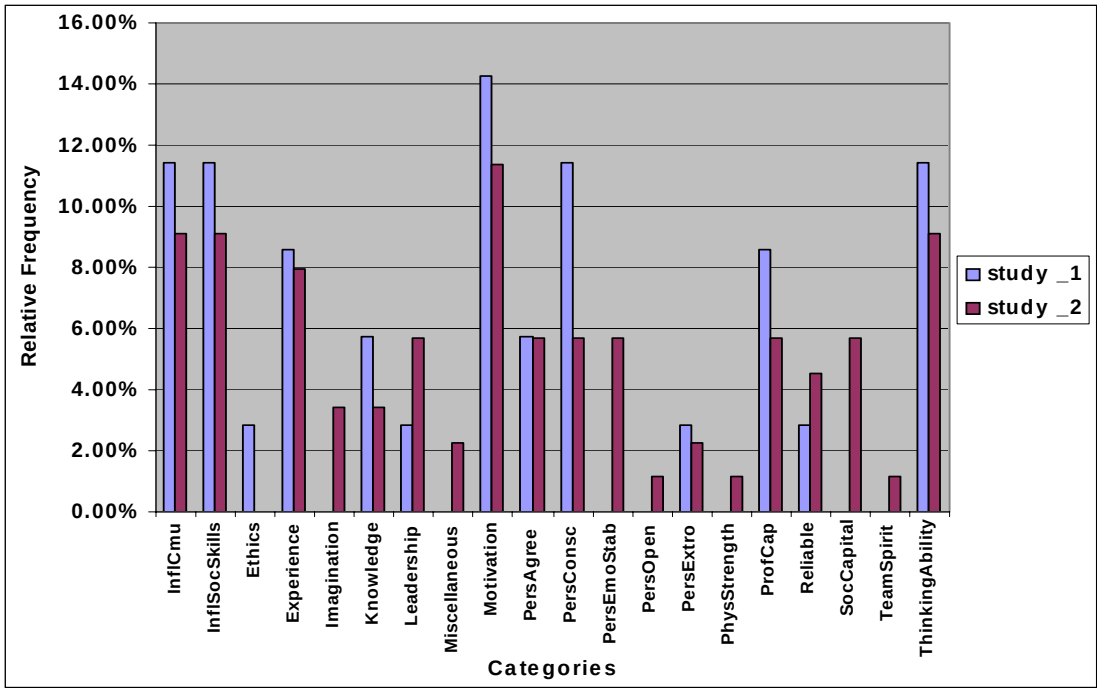

Figure 6. Team Choices Attributes in Negotiations Situation, study 1 and 2. (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	11.43%	9.09%	PersConsc	11.43%	5.68%
InflSocSkills	11.43%	9.09%	PersEmoStab	0.00%	5.68%
Ethics	2.86%	0.00%	PersOpen	0.00%	1.14%
Experience	8.57%	7.95%	PersExtro	2.86%	2.27%
Imagination	0.00%	3.41%	PhysStrength	0.00%	1.14%
Knowledge	5.71%	3.41%	ProfCap	8.57%	5.68%
Leadership	2.86%	5.68%	Reliable	2.86%	4.55%
Miscellaneous	0.00%	2.27%	SocCapital	0.00%	5.68%
Motivation	14.29%	11.36%	TeamSpirit	0.00%	1.14%
PersAgree	5.71%	5.68%	ThinkingAbility	11.43%	9.09%

Table 12. Percentages Each Category Received as Team Choices Attributes in Negotiations Situation

3. Crisis Situations

Participants of study 1 described themselves as leadership with 28.57%, openness to new ideas with 14.29%, and experience, emotional stability, and professional capabilities with 9.52% each. Participants of study 2 assessed themselves as having motivation, agreeableness, emotional stability, reliability, and thinking ability with 10.34% each. Self assessment phase is summarized in the following figure for both studies:

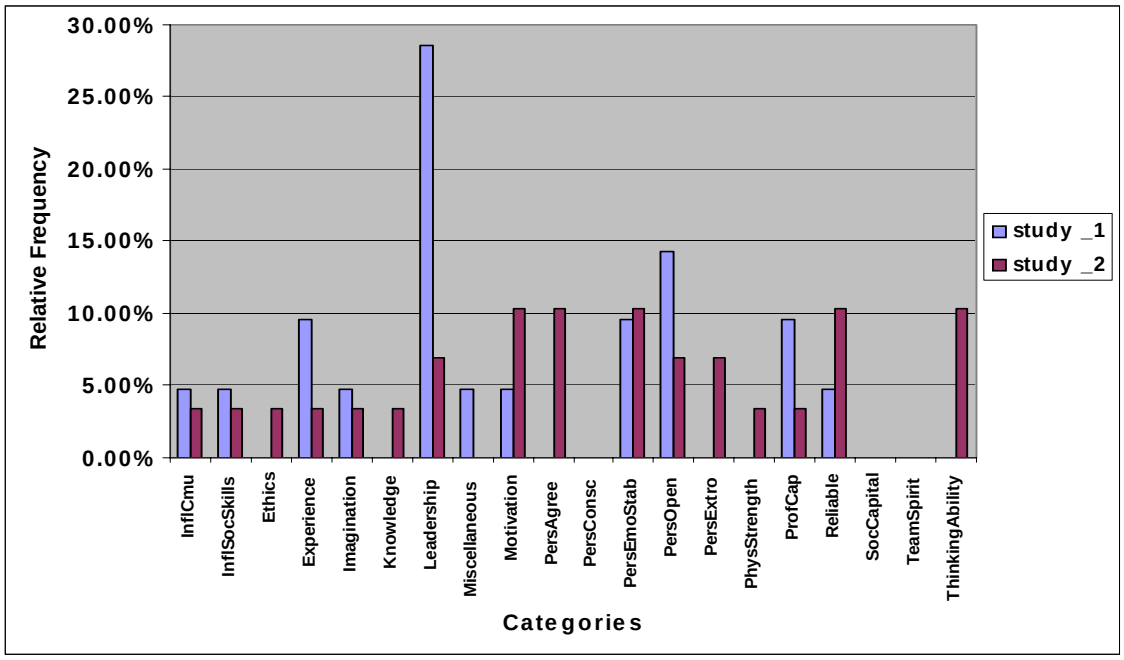

Figure 7. Self Assessment in Crisis Situation, study 1 and 2. (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	4.76%	3.45%	PersConsc	0.00%	0.00%
InflSocSkills	4.76%	3.45%	PersEmoStab	9.52%	10.34%
Ethics	0.00%	3.45%	PersOpen	14.29%	6.90%
Experience	9.52%	3.45%	PersExtro	0.00%	6.90%
Imagination	4.76%	3.45%	PhysStrength	0.00%	3.45%
Knowledge	0.00%	3.45%	ProfCap	9.52%	3.45%
Leadership	28.57%	6.90%	Reliable	4.76%	10.34%
Miscellaneous	4.76%	0.00%	SocCapital	0.00%	0.00%
Motivation	4.76%	10.34%	TeamSpirit	0.00%	0.00%
PersAgree	0.00%	10.34%	ThinkingAbility	0.00%	10.34%

Table 13. Percentages Each Category Received as Self Assessment in Crisis Situation

Following their self assessment they indicated what attributes were desired for the specific situation to deal with it effectively. Participants of study 1 indicated professional capabilities with 16.67%, openness to new ideas with 11.90%, and leadership, motivation, and thinking ability with 9.52% each. Participants of study 2 indicated leadership with 19.35%, and experience, motivation, and professional capabilities with 11.29% each. Desired attributes for this situation are illustrated with the following figure for both studies:

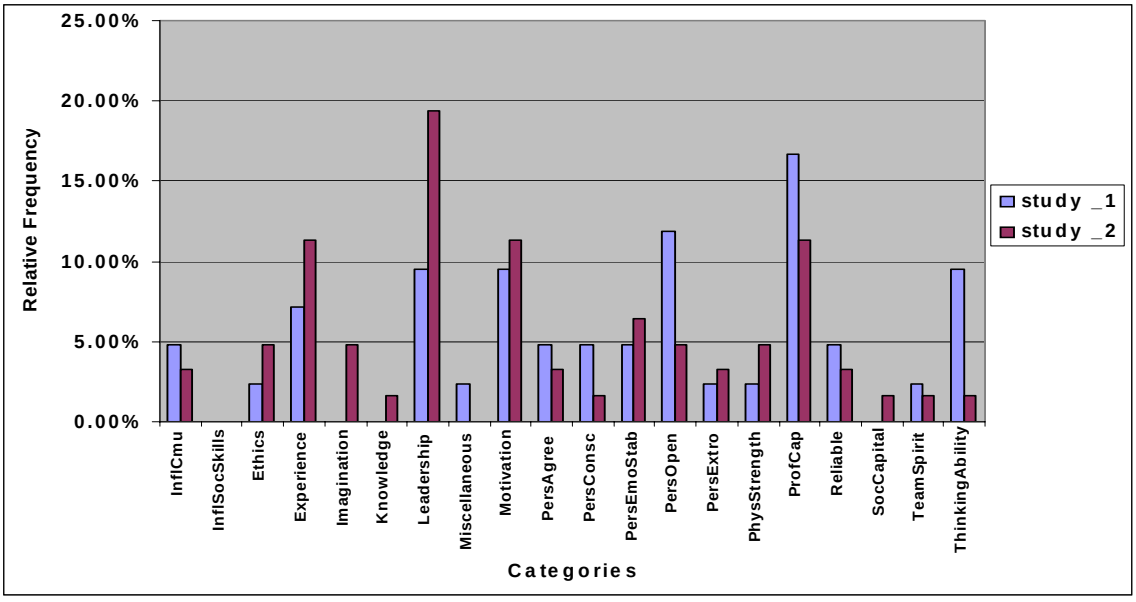

Figure 8. Desired Team Attributes in Crisis Situation, study 1 and 2 (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	4.76%	3.23%	PersConsc	4.76%	1.61%
InflSocSkills	0.00%	0.00%	PersEmoStab	4.76%	6.45%
Ethics	2.38%	4.84%	PersOpen	11.90%	4.84%
Experience	7.14%	11.29%	PersExtro	2.38%	3.23%
Imagination	0.00%	4.84%	PhysStrength	2.38%	4.84%
Knowledge	0.00%	1.61%	ProfCap	16.67%	11.29%
Leadership	9.52%	19.35%	Reliable	4.76%	3.23%
Miscellaneous	2.38%	0.00%	SocCapital	0.00%	1.61%
Motivation	9.52%	11.29%	TeamSpirit	2.38%	1.61%
PersAgree	4.76%	3.23%	ThinkingAbility	9.52%	1.61%

Table 14. Percentages Each Category Received as Desired Team Attributes in Crisis Situation

At last, participants selected their team members justifying their choices using specific attributes. The prevailing attribute for study 1 was professional capabilities with 18.18%, motivation with 12.12%, and experience and conscientiousness with 9.09% each. Study 2 justifications were motivation with 13.41%, leadership with 12.20%, and emotional stability with 10.98%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for both studies:

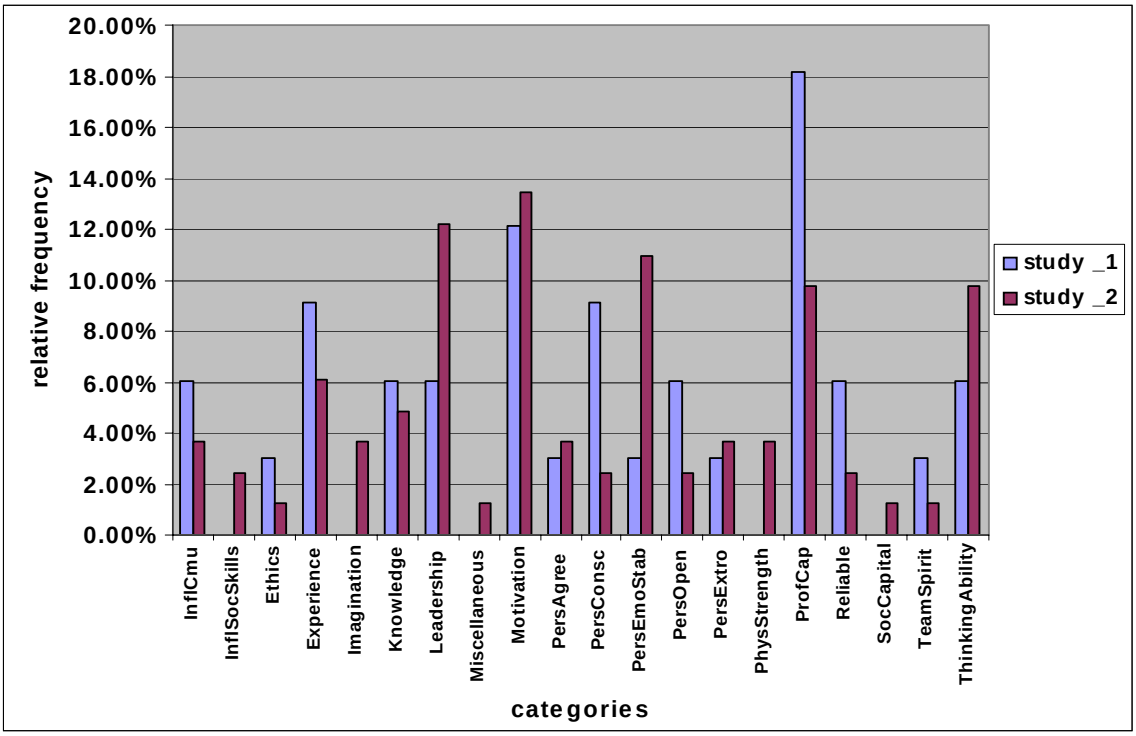

Figure 9. Team Choices Attributes in Crisis Situation, study 1 and 2. (Developed by researchers)

Categories	study _1	study _2	Categories (cont'd)	study _1	study _2
InflCmu	6.06%	3.66%	PersConsc	9.09%	2.44%
InflSocSkills	0.00%	2.44%	PersEmoStab	3.03%	10.98%
Ethics	3.03%	1.22%	PersOpen	6.06%	2.44%
Experience	9.09%	6.10%	PersExtro	3.03%	3.66%
Imagination	0.00%	3.66%	PhysStrength	0.00%	3.66%
Knowledge	6.06%	4.88%	ProfCap	18.18%	9.76%
Leadership	6.06%	12.20%	Reliable	6.06%	2.44%
Miscellaneous	0.00%	1.22%	SocCapital	0.00%	1.22%
Motivation	12.12%	13.41%	TeamSpirit	3.03%	1.22%
PersAgree	3.03%	3.66%	ThinkingAbility	6.06%	9.76%

Table 15. Percentages Each Category Received as Team Choices Attributes in Crisis Situation

The pattern resulting in this part in terms of time pressure, uncertainty and instability showed that team leaders initially assess their own strengths for each situation before considering what would be desired to perform effectively; then choose their team members in ways that fill gaps in their weakness areas. For example, in the strategic planning situation, study 1 respondents considered themselves as having motivation in conjunction with the desired attributes of motivation and thinking ability. Their actual team member choice is focused on the thinking ability attribute that is desired and not self assessed by them. In a similar way in the negotiation situation study 2 respondents assessed themselves as having motivation and desiring communication skills (individual and social), so their actual team member choice was made emphasizing the two lacking attributes. In the crisis situation, the desired attributes had to deal with professional capabilities, leadership, and motivation, and thus the final team member selection was based on those attributes that supplement and reinforce their own strengths.

D. SENIORITY AND TEAM MEMBER CHOICES ATTRIBUTES

Officers were categorized into junior and senior officers per study to determine any differences among them regarding their team member choices justification and criteria. Respondents/participants rank ranged in the following ascending order: Lieutenant Junior Grade, Lieutenant, Lieutenant Commander, and Commander. For this part of data analysis and based on Navy steps, Lieutenant Junior Grade and the respective

officers in Air Force, Army, and Marine Corps as well as Lieutenant officers were categorized as junior, whereas Lieutenant Commander and Commander were senior.

1. Strategic Planning

With this distinction in study 1, senior officers selected their team members justifying their choices as having thinking ability at 19.19%, as did junior officers with 23.60%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 1:

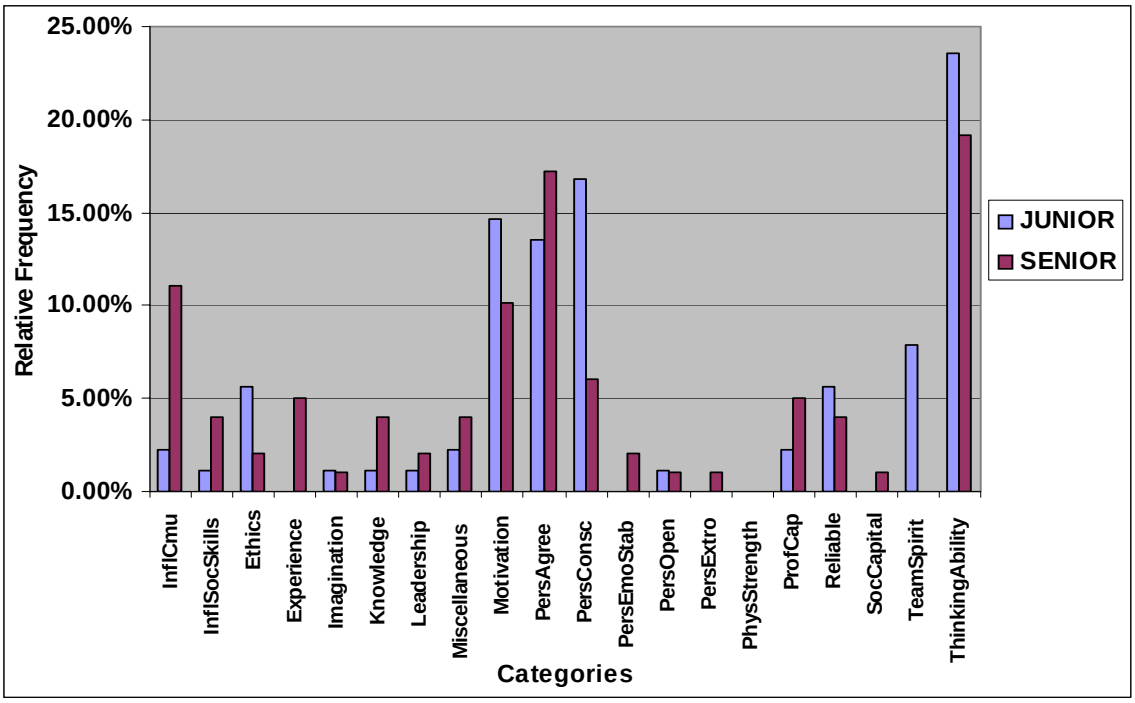

Figure 10. Team Choices Attributes in Strategic Planning by Ranking, study 1. (Developed by researchers)

STUDY 1	Junior	Senior	STUDY 1 (cont'd)	Junior	Senior
InflCmu	2.25%	11.11%	PersConsc	16.85%	6.06%
InflSocSkills	1.12%	4.04%	PersEmoStab	0.00%	2.02%
Ethics	5.62%	2.02%	PersOpen	1.12%	1.01%
Experience	0.00%	5.05%	PersExtro	0.00%	1.01%
Imagination	1.12%	1.01%	PhysStrength	0.00%	0.00%
Knowledge	1.12%	4.04%	ProfCap	2.25%	5.05%
Leadership	1.12%	2.02%	Reliable	5.62%	4.04%
Miscellaneous	2.25%	4.04%	SocCapital	0.00%	1.01%
Motivation	14.61%	10.10%	TeamSpirit	7.87%	0.00%
PersAgree	13.48%	17.17%	ThinkingAbility	23.60%	19.19%

Table 16. Percentages Each Category Received as Team Choices Attributes in Strategic Planning by Rank, study 1

In study 2, senior officers selected their team members justifying their choices as having thinking ability at 24.42%, as did junior officers with 15.47%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 2:

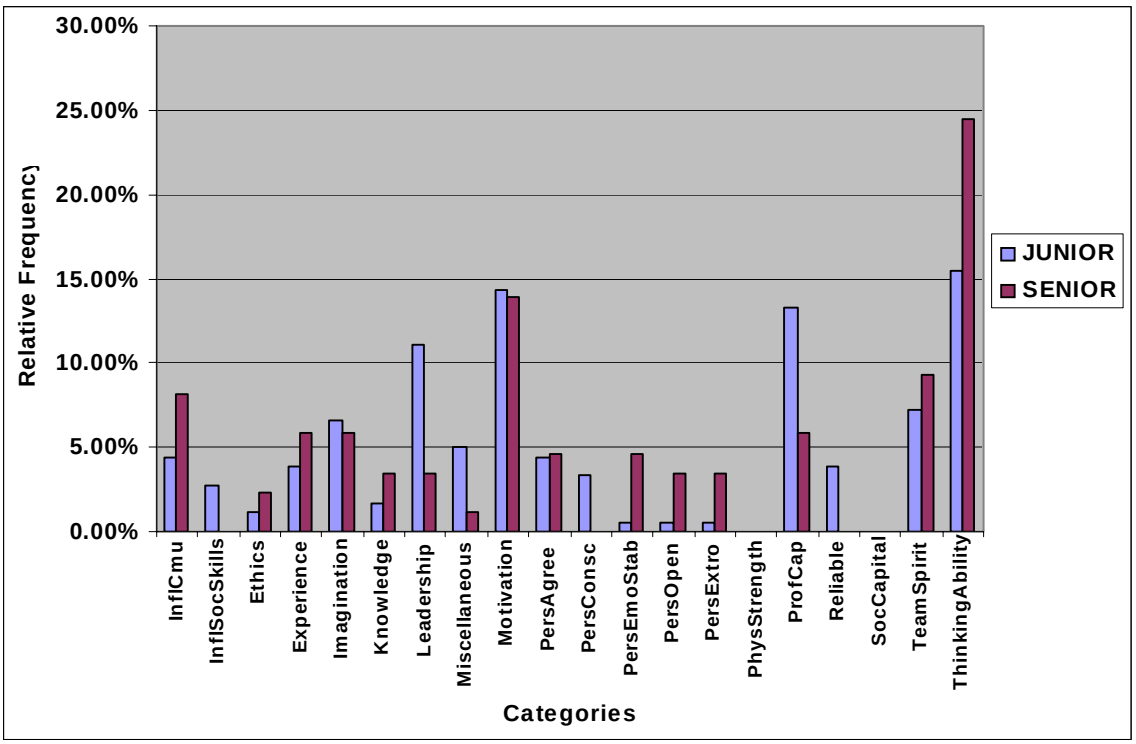

Figure 11. Team Choices Attributes in Strategic Planning by Ranking, study 2. (Developed by researchers)

STUDY 2	Junior	Senior	STUDY 2 (cont'd)	Junior	Senior
InflCmu	4.42%	8.14%	PersConsc	3.31%	0.00%
InflSocSkills	2.76%	0.00%	PersEmoStab	0.55%	4.65%
Ethics	1.10%	2.33%	PersOpen	0.55%	3.49%
Experience	3.87%	5.81%	PersExtro	0.55%	3.49%
Imagination	6.63%	5.81%	PhysStrength	0.00%	0.00%
Knowledge	1.66%	3.49%	ProfCap	13.26%	5.81%
Leadership	11.05%	3.49%	Reliable	3.87%	0.00%
Miscellaneous	4.97%	1.16%	SocCapital	0.00%	0.00%
Motivation	14.36%	13.95%	TeamSpirit	7.18%	9.30%
PersAgree	4.42%	4.65%	ThinkingAbility	15.47%	24.42%

Table 17. Percentages Each Category Received as Team Choices Attributes in Strategic Planning by Rank, study 2

2. Negotiations Situation

In this situation, senior officers of study 1 selected their team members justifying their choices as having social communication skills at 18.75%, and junior officers as having thinking ability at 26.09%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 1:

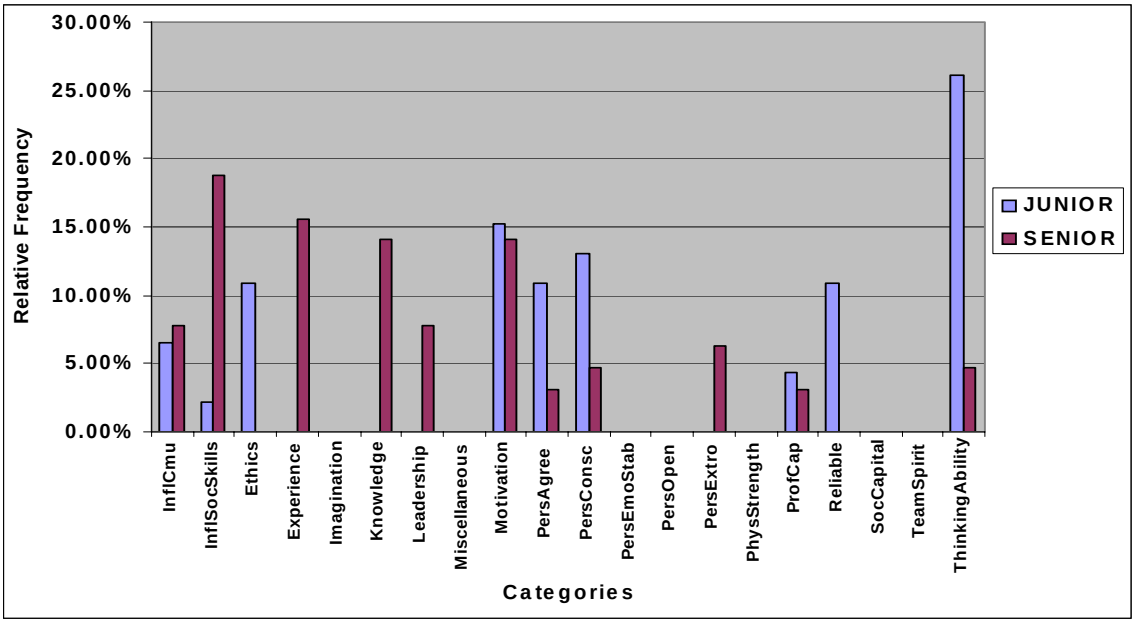

Figure 12. Team Choices Attributes in Negotiations Situation by Ranking, study 1. (Developed by researchers)

STUDY 2	Junior	Senior	STUDY 2 (cont'd)	Junior	Senior
InflCmu	6.52%	7.81%	PersConsc	13.04%	4.69%
InflSocSkills	2.17%	18.75%	PersEmoStab	0.00%	0.00%
Ethics	10.87%	0.00%	PersOpen	0.00%	0.00%
Experience	0.00%	15.63%	PersExtro	0.00%	6.25%
Imagination	0.00%	0.00%	PhysStrength	0.00%	0.00%
Knowledge	0.00%	14.06%	ProfCap	4.35%	3.13%
Leadership	0.00%	7.81%	Reliable	10.87%	0.00%
Miscellaneous	0.00%	0.00%	SocCapital	0.00%	0.00%
Motivation	15.22%	14.06%	TeamSpirit	0.00%	0.00%
PersAgree	10.87%	3.13%	ThinkingAbility	26.09%	4.69%

Table 18. Percentages Each Category Received as Team Choices Attributes in Negotiations Situation by Rank, study 1

In study 2, senior officers selected their team members justifying their choices as having thinking ability at 22.00%. Junior officers justified their choices as having social communication skills at 18.03%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 2:

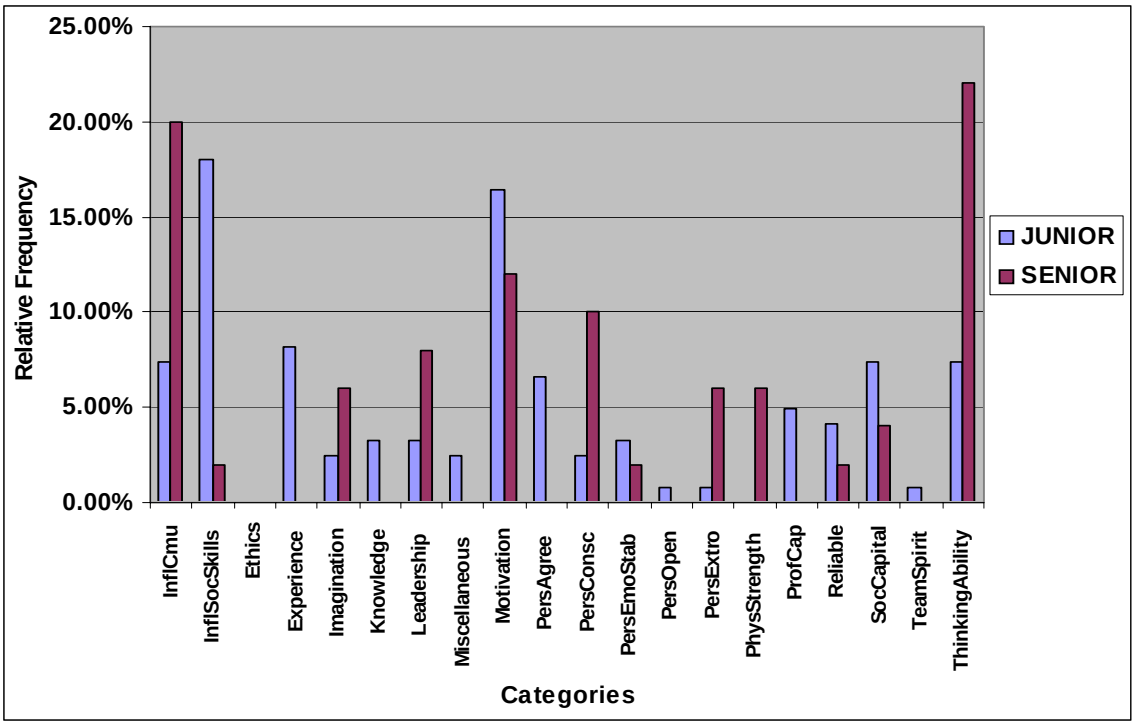

Figure 13. Team Choices Attributes in Negotiations Situation by Ranking, study 2. (Developed by researchers)

STUDY 2	Junior	Senior	STUDY 2 (cont'd)	Junior	Senior
InflCmu	7.38%	20.00%	PersConsc	2.46%	10.00%
InflSocSkills	18.03%	2.00%	PersEmoStab	3.28%	2.00%
Ethics	0.00%	0.00%	PersOpen	0.82%	0.00%
Experience	8.20%	0.00%	PersExtro	0.82%	6.00%
Imagination	2.46%	6.00%	PhysStrength	0.00%	6.00%
Knowledge	3.28%	0.00%	ProfCap	4.92%	0.00%
Leadership	3.28%	8.00%	Reliable	4.10%	2.00%
Miscellaneous	2.46%	0.00%	SocCapital	7.38%	4.00%
Motivation	16.39%	12.00%	TeamSpirit	0.82%	0.00%
PersAgree	6.56%	0.00%	ThinkingAbility	7.38%	22.00%

Table 19. Percentages Each Category Received as Team Choices Attributes in Negotiations Situation by Rank, study 2

3. Crisis Situation

In this situation, senior officers of study 1 selected their team members justifying their choices as having motivation at 20.00%, as did junior officers at 18.18%. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 1:

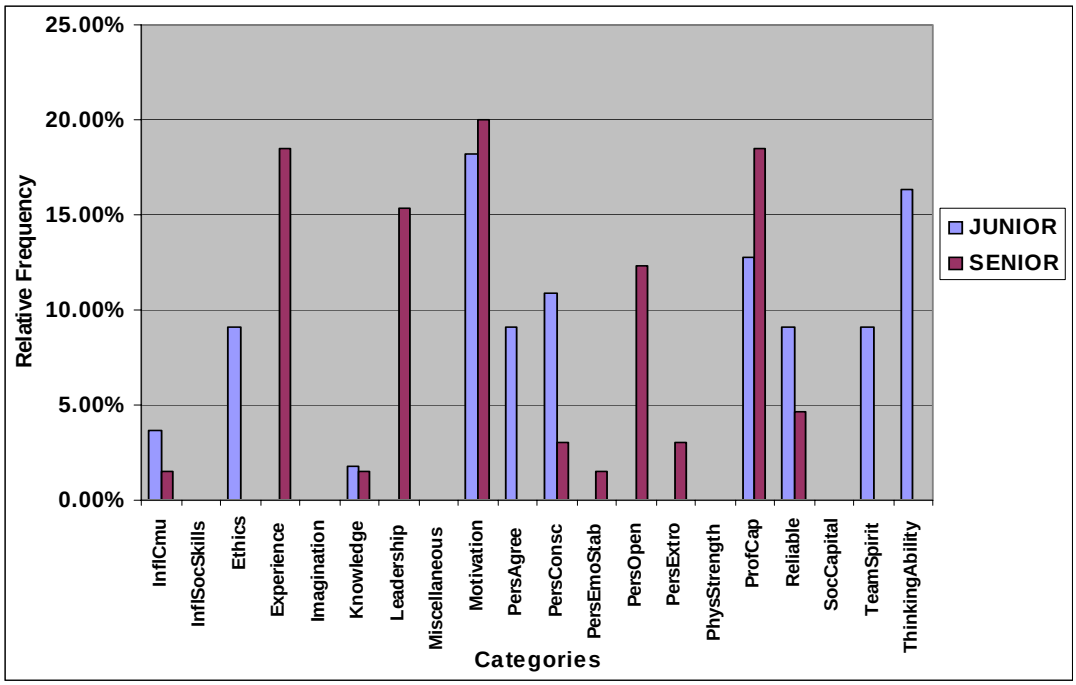

Figure 14. Team Choices Attributes in Crisis Situation by Ranking, study 1. (Developed by researchers)

STUDY 1	Junior	Senior	STUDY 1 (cont'd)	Junior	Senior
InflCmu	3.64%	1.54%	PersConsc	10.91%	3.08%
InflSocSkills	0.00%	0.00%	PersEmoStab	0.00%	1.54%
Ethics	9.09%	0.00%	PersOpen	0.00%	12.31%
Experience	0.00%	18.46%	PersExtro	0.00%	3.08%
Imagination	0.00%	0.00%	PhysStrength	0.00%	0.00%
Knowledge	1.82%	1.54%	ProfCap	12.73%	18.46%
Leadership	0.00%	15.38%	Reliable	9.09%	4.62%
Miscellaneous	0.00%	0.00%	SocCapital	0.00%	0.00%
Motivation	18.18%	20.00%	TeamSpirit	9.09%	0.00%
PersAgree	9.09%	0.00%	ThinkingAbility	16.36%	0.00%

Table 20. Percentages Each Category Received as Team Choices Attributes in Crisis Situation by Rank, study 1

In study 2, senior officers selected their team members justifying their choices as having thinking ability and urgency at 15.69% each. Junior officers justified their choices as having leadership and motivation at 13.56% each. Team member attributes, as justified by the participants for their team selection, are illustrated with the following figure for study 2:

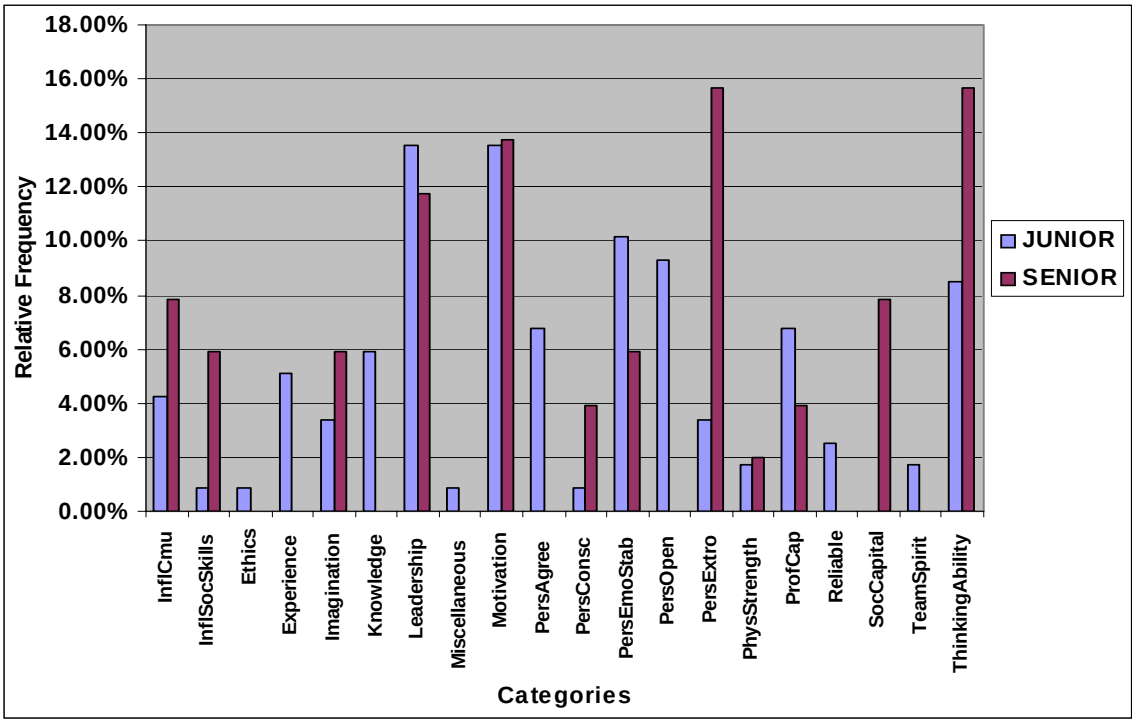

Figure 15. Team Choices Attributes in Crisis Situation by Ranking, study 2. (Developed by researchers)

STUDY 2	Junior	Senior	STUDY 2 (cont'd)	Junior	Senior
InflCmu	4.24%	7.84%	PersConsc	0.85%	3.92%
InflSocSkills	0.85%	5.88%	PersEmoStab	10.17%	5.88%
Ethics	0.85%	0.00%	PersOpen	9.32%	0.00%
Experience	5.08%	0.00%	PersExtro	3.39%	15.69%
Imagination	3.39%	5.88%	PhysStrength	1.69%	1.96%
Knowledge	5.93%	0.00%	ProfCap	6.78%	3.92%
Leadership	13.56%	11.76%	Reliable	2.54%	0.00%
Miscellaneous	0.85%	0.00%	SocCapital	0.00%	7.84%
Motivation	13.56%	13.73%	TeamSpirit	1.69%	0.00%
PersAgree	6.78%	0.00%	ThinkingAbility	8.47%	15.69%

Table 21. Percentages Each Category Received as Team Choices Attributes in Crisis Situation by Rank, study 2

VI. CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

The reasons given from the survey participants for their team member choices had a narrative form that substantiated a set of selection variables. During the discussion of hypothesis VI (page 29), and tracking down the interactions among those criteria selection variables, the general set of criteria breaks down to subsets in a way that once a criterion is preferred, it affects the use of the relative criteria belonging to the same subset. Actually, three subsets emerged through the respective statistical analysis with each subset encapsulating conceptual differences. Motivation pairs with social capital in the strategic planning situation. Communication, conscientiousness, and thinking ability cluster with each other in the negotiations situation, whereas leadership and professional capabilities prevail in the crisis situation. Physical strength appeared as a separate factor under crisis and stress circumstances. Concept maps created sociograms peering into leader's minds, possibly depicting how selection criteria interact or clump together.

Concept maps show distinct differences in the patterns of skills and attributes that were desired by leaders for strategy, negotiation, and crisis response teams. Figures 16, 17, and 18 depict relations among the 20 categories of attributes given by respondents. Node size reflects the frequency with which each category was chosen for the given scenario. Shape and color of nodes show which attributes tended to be chosen together, based on factor analysis using varimax rotation. Factor 1 in each scenario is noted using dark green circles, factor 2 is noted using red squares, and factor 3 is noted using light blue up-triangles. Factors 4 (lavender boxes), 5 (turquoise down-triangles), and 6 (yellow circle in black box) explain less variance among attributes, although several of these attributes were frequently chosen. Width of connecting lines reflects the number of times each pair of attributes was chosen for the same team. Clustering patterns among attributes varied according to the purpose of the team. For example, leadership, agreeableness, conscientiousness, and high ethics tended to be chosen together for strategy teams, but these attributes seldom co-occured on the negotiating teams.

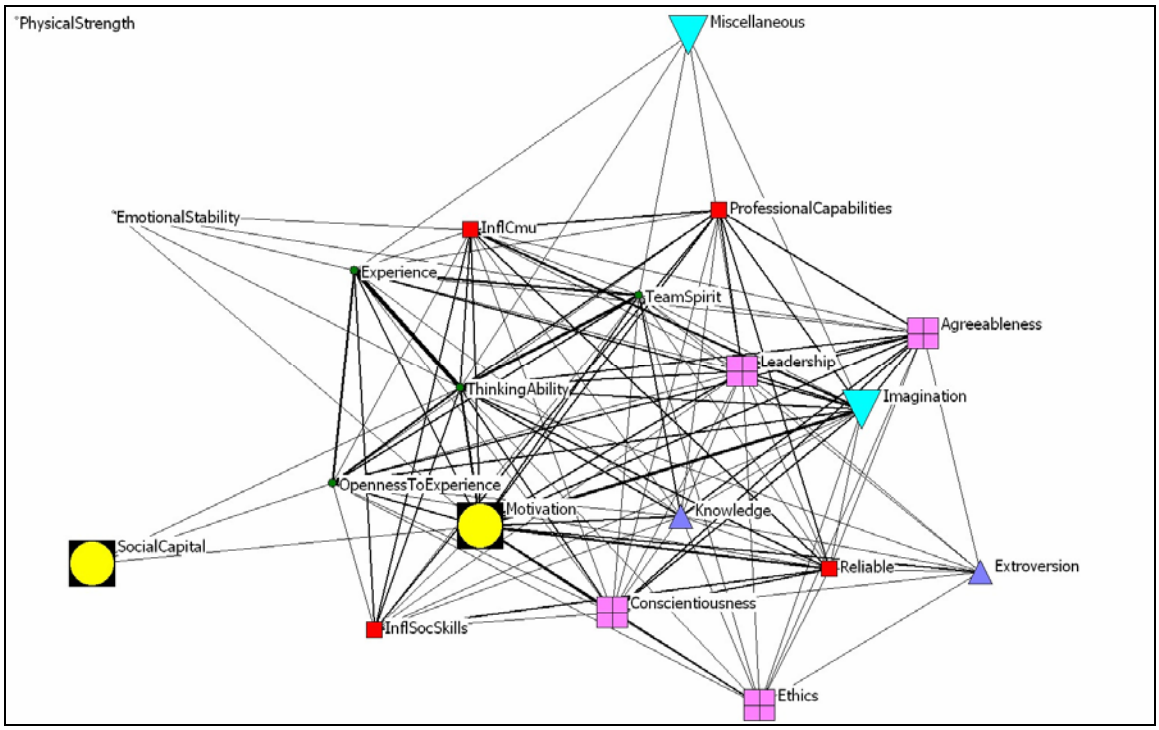

Figure 16. Relations among skills and attributes chosen for strategy formulation teams

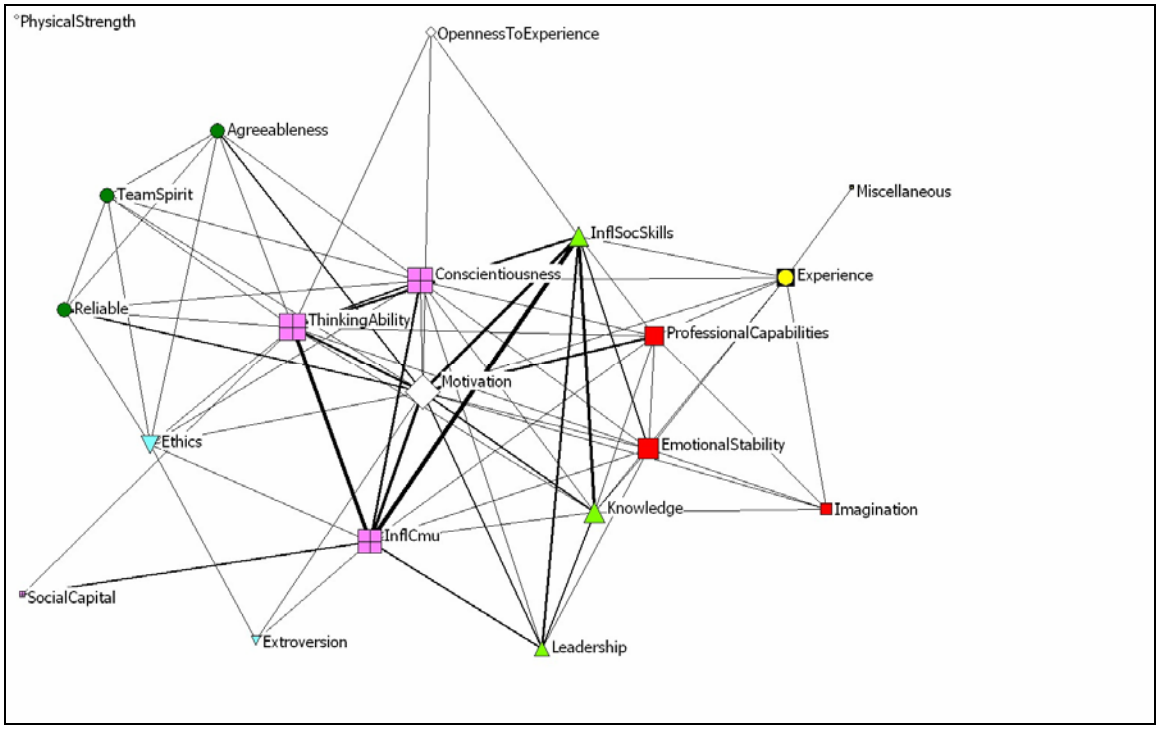

Figure 17. Relations among skills and attributes chosen for negotiation teams

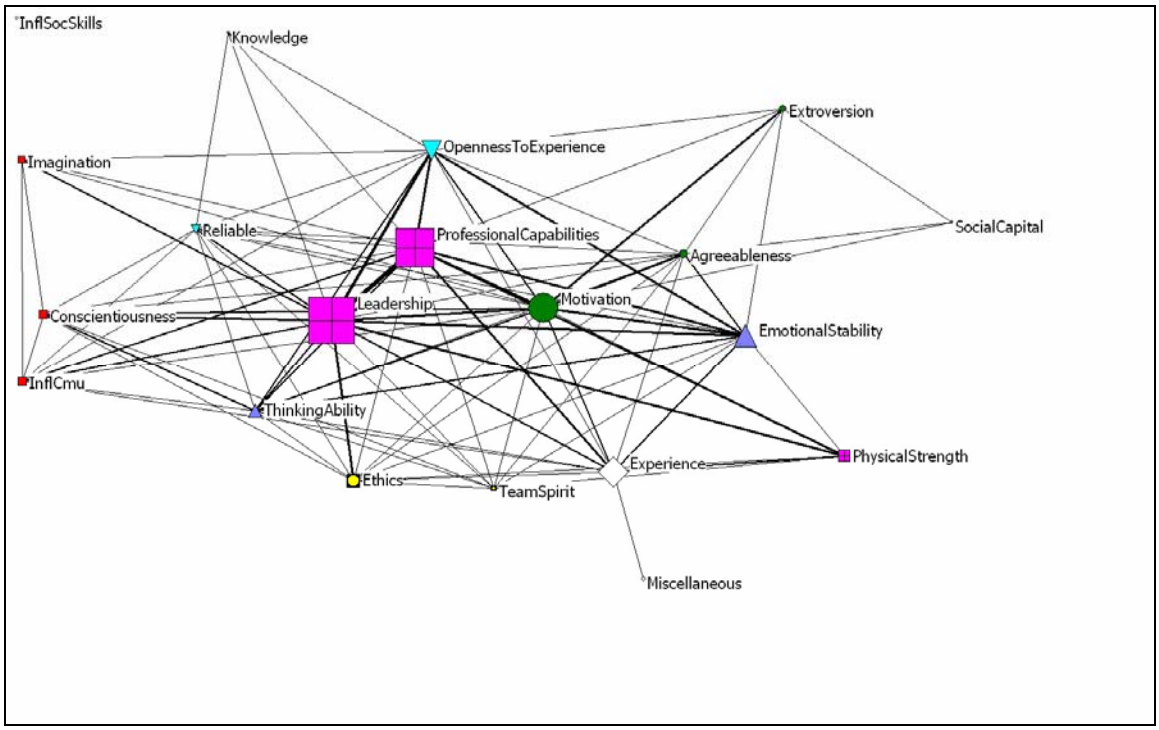

Figure 18. Relations among skills and attributes chosen for crisis response teams

During this research and regarding hypothesis I (page 28), the surveyed officers, when asked to select team members facing different organizational challenges gave different answers. Team leaders made their selection decisions taking into account mostly the thinking abilities of their candidate team members when the organization had to form or reform its strategic orientation and planning. The same team leaders, when their organization needed to be represented in negotiations of great importance, looked for team members highly motivated to fight for the team's interests, as well as team members possessing communication skills. At last, when the simulated organizational environment included risk factors, high stakes and uncertainty, the team members that prevailed had to be both motivated and reliable, and saturated with loyalty and professionalism.

The team-work process may be dependent on several elements determining achievement of team objectives. Among those elements, team composition stands as one of the most critical factors impacting team functions. The selection of team members can and should result from meticulous planning weighing individual attitudes and capabilities. Different capabilities would apply in different situations teams face both internal and external to the teams environment.

Testing hypothesis II (page 28) related to the impact of the team leaders' seniority on the criteria they use to compose a team, senior officers appear to assess additional qualitative characteristics. There is a common basis for both senior and junior officers highlighting the importance of thinking and professional capabilities, but team leaders with a higher hierarchical position may also introduce personality factors like agreeableness and extraversion that seem to be remarkably appreciated when reflective of candidate personas.

The selection process can be considered from a standpoint where team leaders are relatively isolated and distant from team members. This research, however, tried to evaluate the relationship factor, or the social networking aspects of team formation process (hypothesis III, page 28-29). The analysis of the relationship matrices that surround and relate team leaders to team members indicates differentiated preferences due to friendship, professional and/or co-working ties. Those relationships would therefore perform a critical role and are positively correlated to the final selection decisions.

The consequent question, connected to hypothesis IV (page 29) about the variances in the above correlations due to strategic, negotiations and crisis organizational situations, was hypothetically tested and statistically examined. The picture obtained from analysis indicates that friendship can substantially matter in routine organizational environments not facing threats and unpredictable developments. A similar pattern was formulated for the relationship reflecting overall professional opinion team composers have for candidate team members. Normal or routine organizational conditions appear to positively influence decision makers in favor of team members with whom they have close informal ties. On the other hand, in crisis situations, informal relationship ties play less significant roles compared to formal and objective attributes.

Networking social relationships can be tracked not only between team leaders and members but also among the members themselves. The relevant hypothesis V (page 29), deemed that leaders consider the relationships among team members a reasonable justification for their selections. Nevertheless, the statistics around the relationship ties among the team members inside each one of the teams that were hypothetically formed

resulted in another conclusion about the selection drivers used by the team composers. Team leaders selected team members without thinking of the dynamic social networking connections that pre-existed or could potentially happen among candidate team members.

All of the participants in the survey belonged to defense oriented government organizations appreciating and rewarding motivation and professionalism as critical factors driving team accomplishments. Conversely, there appeared to be an underestimation of team spirit concepts. In general, they considered team formation as self-oriented, i.e., the team structure will assimilate social networking parameters carried by individual team members, creating a new team attitude above any individual attitude components. An emphasis on individual competencies was evidently prevailing over ethics and team cohesiveness concepts. The same tendency was apparent in the case study of Hurricane Katrina which has been referred as background for further analysis.

The key notion that emerged from the aftermath approach of the Katrina incident was that two basic types of organizations, governmental and non-profit voluntary, were both involved in the rescue and recovery operations. Under those tough and disturbing crisis circumstances, governmental agencies in general appeared to fail, while the more decentralized and agile voluntary rescue networks appeared to offer remarkable relief. Much like survey respondents, the governmental agencies during the hurricane disaster, while they were in charge of managing a time-pressured rescue network in a complex operational environment, did not appear to realize the importance of interaction among team members, including local, state, federal and non governmental organizations.

B. RECOMMENDATIONS

Team leaders can compose teams and assign tasks to team members. Their steps towards superior team performance, although not rocket science, do appear closely related to composition decisions related to different task environments. Strategy development teams typically face more mild and predictable pressures, whereas crisis response teams face ambiguity and turbulence. The gap between strategy and crisis type teams may reflect a fundamental difference between functional or bureaucratic governance systems and emerging, net-centric forms.

Humanity evolves from the common ground of survival against environmental challenges. Societal and organizational cultures, global financial markets, web technology and nationalistic fervor may be increasing the rate and depth of change. Our premise is that crisis management concepts are by default more and more applicable.

During this research, various ideas and concepts concerning effective team and organizational performance under various situations emerged and circulated. At first, decentralization appeared as a milestone concept, or the crucial necessity for crisis response teams to have the ability, resources and authority to execute sound decisions on the ground, Highly motivated non-governmental teams appeared to save the day during Hurricane Katrina when bureaucratic mega-organizations failed. Motivation appeared to be a key in stimulating volunteers' willingness to plan, execute and care for disaster victims. Military leaders responding to this study also gave clear importance to the motivation factor. Considering the difficult operational actions demanded during Katrina or other disaster scenes, flexible and effective response plans were implemented by non profit, volunteer-oriented organizations, i.e., decentralized structures containing motivated, even devoted crew members. The core value and our contribution concerning the secret for their achievements revolved around their social network – a shared cultural, communicative and cognitive social background.

The above observations are applicable in real life. They are meant to recommend and highlight action initiatives. Public sector organizations may be suffering from the evolved pathology of bureaucracy where executives invest in political, personal and atomistic careers, whereas the modern world is demanding the flow of information, the dissemination of power and team spirit among multi-level actors, agencies and teams. No matter how well structured and disciplined the crisis teams, ultimate task accomplishment is still complicated and perhaps dependent on joint action rules. The imperative for public policy makers is to learn from other structures how to integrate cooperative team

composition perspectives, including corporate businesses and volunteer associations who seem to be way ahead in terms of ideas and methods for managing crisis using a social networking orientation.

C. LIMITATIONS AND FURTHER RESEARCH

The size of the respondent samples for study 1 and study 2 were 48% and 66% respectively, which poses some limitations affecting the statistical analysis of the data presented in this project.

Given the time constraints, survey samples were taken only from the Business School (no other educational departments were examined), which involved business and management types opposed to math, science and engineering specialists who may perceive team formation standards differently. Conducting respective surveys across the different educational departments could be interesting and revealing follow-on research concerning team formation processes. Similarly, responses might be different using participants from the private business world or volunteer associations.

The survey took place among participants, many of which knew each other concerning their team selection process. It would be interesting to examine the way the same leaders would compose their teams based only on curricula vitae, having no further available information about relationship ties in their organizational settings. In this framework, further research could be conducted comparing the results between including and not including relationship information in the selection process.

Recommendations suggest that governmental organizations could benefit from the way that non-profit and private business organizations compose and achieve team performance. It would be beneficiary to research the extent to which lessons learned are applicable and feasible. Furthermore, even inside the prototype decentralized organization, an overdose of flexibility can offset the positive effects of accountability and control. What are the limits of decentralization, what factors monitor and retain personnel motivation, and what techniques assure successful transformation, given the ingrained bureaucratic structure of the public sector? Keeping the balance among all of

these dynamic and sometimes contradictory elements seems to be an art and science that challenges any and all leaders demanding effective team performance under an array of organizational environments.

APPENDIX A. PERSONALITY QUESTIONS[1]

Rating scale:
1 = Very Inaccurate
2 = Moderately Inaccurate
3 = Neither Inaccurate nor Accurate
4 = Moderately Accurate
5 = Very Accurate

	Rating scale
Am the life of the party.	1 2 3 4 5
Feel little concern for others.	1 2 3 4 5
Am always prepared.	1 2 3 4 5
Get stressed out easily.	1 2 3 4 5
Have a rich vocabulary.	1 2 3 4 5
Don't talk a lot.	1 2 3 4 5
Am interested in people.	1 2 3 4 5
Leave my belongings around.	1 2 3 4 5
Am relaxed most of the time.	1 2 3 4 5
Have difficulty understanding abstract ideas.	1 2 3 4 5
Feel comfortable around people.	1 2 3 4 5
Insult people.	1 2 3 4 5
Pay attention to details.	1 2 3 4 5
Worry about things.	1 2 3 4 5
Have a vivid imagination.	1 2 3 4 5
Keep in the background.	1 2 3 4 5
Sympathize with others' feelings.	1 2 3 4 5
Make a mess of things.	1 2 3 4 5
Seldom feel blue.	1 2 3 4 5
Am not interested in abstract ideas.	1 2 3 4 5
Start conversations.	1 2 3 4 5
Am not interested in other people's problems.	1 2 3 4 5
Get chores done right away.	1 2 3 4 5
Am easily disturbed.	1 2 3 4 5
Have excellent ideas.	1 2 3 4 5
Have little to say.	1 2 3 4 5
Have a soft heart.	1 2 3 4 5
Often forget to put things back in their proper place.	1 2 3 4 5
Get upset easily.	1 2 3 4 5
Do not have a good imagination.	1 2 3 4 5

[1] Possible Questionnaire Format for Administering the 50 Big-Five Factor Markers. Retrieved on November 14, 2006 from http://ipip.ori.org/newQform50b5.htm

Talk to a lot of different people at parties.	1 2 3 4 5
Am not really interested in others.	1 2 3 4 5
Like order.	1 2 3 4 5
Change my mood a lot.	1 2 3 4 5
Am quick to understand things.	1 2 3 4 5
Don't like to draw attention to myself.	1 2 3 4 5
Take time out for others.	1 2 3 4 5
Shirk my duties.	1 2 3 4 5
Have frequent mood swings.	1 2 3 4 5
Use difficult words.	1 2 3 4 5
Don't mind being the center of attention.	1 2 3 4 5
Feel others' emotions.	1 2 3 4 5
Follow a schedule.	1 2 3 4 5
Get irritated easily.	1 2 3 4 5
Spend time reflecting on things.	1 2 3 4 5
Am quiet around strangers.	1 2 3 4 5
Make people feel at ease.	1 2 3 4 5
Am exacting in my work.	1 2 3 4 5
Often feel blue.	1 2 3 4 5
Am full of ideas.	1 2 3 4 5

APPENDIX B. RELATIONSHIPS/TIES TO OTHERS (STUDY 1)

The following questions address the **relationships** you have developed with other people in the MBA program. Please use a 1-5 scale to describe your relationship to those whom you know. **Skip the names** of people whom you don't know or don't interact with more than once per month. **Default value** for skipped persons will be zero to indicate that you do not know that person.

1. To what extend do you have a professional relationship with each of the people at NPS whom you know

Rating Scale:

1-minimal relationship, 3-moderate relationship, 5- extensive relationship

2. To what extend do you consider each of the people at NPS whom you know to be your friend?

Rating Scale:

1-positive acquaintance, 3- casual friend, 5-close friend

3. How willing would you be to rely upon this person if a rapid response was required?

Rating Scale:

1-not at all willing, 5-completely willing

4. The people whom you named are listed below. (Is anyone missing? If so, please go back and add his or her name to the list and complete the questions about your relationships.) Now we need to map the relationships among your contacts. In the following list, indicate the extent to which they interact with each other as friends and for professional purposes (remember that 1 indicates a weak relationship and 5 indicates a strong relationship). If you are not aware of any relationship between two people, you can leave their information blank, and we will assume that there is no relationship between them.

Rating Scale:

1-Weak Relationship, 5-Strong Relationship

APPENDIX C. RELATIONSHIPS/TIES TO OTHERS (STUDY 2)

The following questions address the **relationships** you have developed with other people in the MBA program. Please use a 1-5 scale to describe your relationship to those whom you know. **Skip the names** of people whom you don't know or don't interact with more than once per month. **Default value** for skipped persons will be zero to indicate that you do not know that person.

In the ***first column***, please indicate whether you have worked with each person (skip anyone you don't know very well). (Worked Together)

In the ***second column***, please indicate the extent to which you pay attention to each person's professional opinions. (Professional Opinion)

Rating scale:

1 = not at all

2 = seldom

3 = sometimes

4 = often

5 = consistently

In the ***third column,*** please indicate the extent to which you view each person whom you know as a friend. (Friendship)

Rating scale:

1 = not at all

2 = positive acquaintance

3 = casual friend (positive interaction on campus, minimal interaction otherwise)

4 = friend

5 = close friend

In the ***fourth column,*** please indicate how willing you would be to rely on this person if a rapid response was required.

Rating scale:

1 = not at all

2 = prefer not to

3 = unsure

4 = somewhat willing

5 = completely willing

APPENDIX D. THE SCENARIOS

Scenario #1

NPS Graduate School of Business and Public Policy is developing a **strategic plan** to provide vision and set directions for future success. The strategic planning process includes assessment of the internal and external environment, including analysis of the organization's strengths, weaknesses, opportunities and threats. The process further requires planning of organizational improvements. Suppose that **you must select and lead a team to develop a strategic plan** for an established organization.

a. Which attributes must team members have to succeed?
b. What are your strengths and weaknesses for this situation?
c. Who would you choose as team members (up to five persons) and what are their strengths and weaknesses for this situation?

Your team member choice his/her strengths & weaknesses for this scenario

Scenario #2

NPS recently was on the **BRAC list** (Base Realignment and Closure process, shutting down major installations and radically realigning others), therefore, its leadership had to **defend NPS interests** against opposing stakeholders. Organizations need to negotiate agreements with many outside stakeholders, thus, teams often form to represent their organization through presentations and negotiations. Suppose that **you must select and lead a team to represent your organization in a crucial, high-stakes negotiation**

a. Which attributes must team members have to succeed?
b. What are your strengths and weaknesses for this situation?
c. Who would you choose as team members (up to five persons) and what are their strengths and weaknesses for this situation?

Your team member choice his/her strengths & weaknesses for this scenario

Scenario #3

Hurricane Lucia is moving towards the coastline of the Philippines; it is **category 5!** Extensive damage to local infrastructure can be expected, and **response teams** will face dangerous, rapidly changing circumstances. Suppose that **<u>you</u> must select and lead a team to execute rescue operations and provide emergency assistance immediately following the hurricane.**

a. Which attributes must team members have to succeed?
b. What are your strengths and weaknesses for this situation?
c. Who would you choose as team members (up to five persons) and what are their strengths and weaknesses for this situation?

Your team member choice his/her strengths & weaknesses for this scenario

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